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The History of the Guildhall of London.

THE ancient Corporation of the City of London deserves the thanks of all lovers of English history and antiquities for the publication of this great work.* The excellence of its production, and the costly facsimiles, woodcuts, and chromo-lithographic plates with which it is embellished (to the number of fifty) indicate that neither money nor pains have been stinted in turning out a book that should be worthy of the capital city of the land, and of the associations, older or newer as may be, which cluster round the edifice to the description of which it is devoted. Mr. Price, to whom the task of writing or compiling the text was entrusted, has endeavoured to the best of his ability to fulfil that task, and in pursuance of it he conducted lengthy investigations at the Library and Museum of the Corporation, the British Museum, the Public Record Office, and several of the libraries at Oxford and Cambridge. Mr. Henry Hodge made plans and drawings of such buildings as were about to be removed for the erection of the new Council Chamber under the order of the library committee in 1882, and he was also directed to take drawings and dimensions of any ancient remains which might be revealed during the course of the excavations for the foundations of the new building. This resulted in the bringing to light of many details hitherto unknown or forgotten, which are chronicled herein in their proper places with the more publicly known history of the Guildhall. The demolition of the "Court of Aldermen's Room" and of the "Old Council Chamber" having been determined upon, Mr. J. P. Emslie was desired to make detailed water-colour drawings before the rooms were dismantled, and the coloured reproductions of this artist's work are among the most prominent in the book before us.

Mr. Price begins with a rapid sketch of Roman London, gradually advancing in importance to become at length the focus of the trade and commerce of the kingdom. He conjectures that there is little doubt that Aulus Plautius, the Roman Governor of Britain, Ambassador, or Vice-General who first ruled in the newly-constituted colony, resided in London, from the circumstance of so many tiles having being discovered in City excavations with the inscription of PRB·LON., P·BRI·LON., P·PR·LON., and so forth, which are interpreted as referring to the Proprætor of Britain at London. The discovery on the site of Leadenhall of Roman buildings of a vast extent, and covering a considerable area, strengthens this conjecture. To the era of these institutions and these remains may be attributed also the offices of *Præfectus Urbi*, and other civic dignities, in which Mr. Price recognises the classic germ of the Mediæval development of the mayoralty, the aldermen, and the sheriffs. This localised rule surviving the disruption of the Roman Empire, we next meet with the Saxon head of the municipality, the *Portgerefa*, or *Portgrave*, an officer who developed into the mayor of Norman and post-Norman times. The portgrave at first, that is, in the reign of William the Conqueror, appears to have been one member (the lay or civil) of the three who formed the governing body of the City; the bishop representing the ecclesiastical functions, and the *burhwara*, *i.e.*, burgesses or corporation, the commonalty. During this Norman period London was governed like a shire. It was, in fact, a collection of small communities, manors, parishes, — some dedicated to foreign and obscure saints,—churches and guilds, in which the lords of such manors, the prelates of the churches, and even the elective aldermen of the guilds, might bear the title of Baron. It is this, perhaps, which explains the legend on the ancient seal of the Corporation, "Sigillum *Baronum* Londoniarum," whereon St. Paul stands with sword and book over Ludgate, with the towers, spires, and domestic gables of the city in the background. In the estates presided over by the aldermen and barons are the wards or burghal shires, into which some at least of the old cities had been divided. York, for example, the Domesday Book declares to have been composed of six shires, besides the Liberty of the Archbishop; Cambridge, perhaps, had corresponding subdivisions.

In the earliest list of London wards, as preserved in the City archives, and which until very recently was thought to be the earliest in existence (A.D. 1285), not fewer than twenty-four wards are enumerated, the names of which, for the most part, resemble those still in being. The "Ninth Report of the Historical Manuscripts Commissions,"—a work which, with all its faults and shortcomings, has done a vast amount of good in bringing to light unknown and unsuspected evidences which bear upon English history,—drew the attention of London antiquaries to a manuscript belonging to the library of the Dean and Chapter of St. Paul's. This comprises a survey of the lands, with their respective measurements, for the most part rectangular or trapezoidal plots with the sides expressed in feet, which appertained to the cathedral church of St. Paul in the twelfth century, and it contains more information relating to the wards and the aldermen who exercised jurisdiction with them there than any document hitherto recorded. To Mr. Price belongs the credit of publishing this MS. in *fac-simile*, and of giving a tolerably correct translation of the contents. With the civic or political division into wards, and the ecclesiastical segregation into parishes, the mercantile associations, or guilds, are probably not far from contemporary. Guilds are, as we know, of great antiquity; they are also of diverse and comprehensive character; quite likely, as Mr. Price suggests, a survival of the *Collegia Opificum* of the Roman empire, in respect of their mercantile and artisan aspects; probably older still in those cases where they represent religious fellowships of persons associated for purposes of charitable assistance, decent burial, anniversary commemoration, and prayerful intercession. It has been suggested that the Anglo-Saxons found the Roman *Collegia* still in activity, even if greatly modified from their original style, and neither interfered in their practice nor controlled their principles. The British gild, or Mediæval guild, for both forms of the word are met with, has been derived from *gildan*,—Anglo-Sax., to pay; and *geld*,—seen in the well-known Danegeld, is a cognate form which two words still run current under the form of *yield* in our modern tongue. This society has three stages of development, voluntary membership, regulation by the general authority of the City, and self-government under royal charters of incorporation.

Of the history of the Guildhall of London in the time before the Conquest very little is known. Nothing has been handed down by tradition to associate the Guildhall with the site on which it now stands earlier than the reign of Edward the Confessor, and this is of the slenderest kind of evidence,—that the shield of arms fancifully ascribed by later heralds to King Edward are carved on bosses in the porch and crypt; but the appearance of this shield among general symbolical ornamentation merely illustrates a common practice in England in the thirteenth, fourteenth, and fifteenth centuries. According to Stow, to whom Mr. Price admits his general indebtedness, the first Guildhall was situated on the east side of Aldermanbury, and traces of early masonry found during some recent operation of

* A Descriptive Account of the Guildhall of the City of London, its History and Associations; with Charters, Maps, and other Illustrations. By John Edw. Price, F.S.A. Prepared by authority of the Corporation of the City of London, under the superintendence of the Library Committee. London: Large folio. 1886.

rebuilding premises seem to bear out the statement. There is, however, abundant evidence to illustrate the existence of a Guildhall in the thirteenth century, and, though alterations and enlargements have from time to time taken place, no evidence is forthcoming to show that the Guildhall of ancient times was ever situated in any other part of the city of London than where it now stands. In 1326 an enlargement took place; again, in the early years of tht fifteenth century, 1411, necessities of the times demanded another enlargement of the Hall, the old hall being found to be inadequate to the accommodation required in consequence of the development and multiplication of the Livery Companies. As Fabyan, the chronicler, writes:—"In this yere was ye Guylde halle of London begon to be newe edyfied and of an olde and lytell cotage made into a fayre and goodly house as it nowe apperyth." Of this hall Mr. Price gives several views from engravings and panoramic illustrations, as well as some excellent woodcuts of the louvre, and some of the windows and other details. The entrance archway, a bold Gothic erection of pleasing appearance, was built in the year 1425. Above were effigies of Biblical personages and the Virtues. Of Mr. Price's lengthy notices of the details of architecture in the various halls and chambers we cannot here make even the most cursory account. He appears to have searched every spot and left no item unrecorded that could yield up any details worth notice. Fortunately there were ready to his hand numerous engravings and illustrations of almost every object, whether monument, window, doorway, façade, plan, or elevation. All these, with few exceptions, have been specially reproduced for the work in a way which reflects credit on the artist, the draughtsman, and the printer; and the general appearance of the book, which strikes us favourably at first sight, is borne out by the thoroughly genuine manner in which Mr. Price has striven to elucidate the points which arose from time to time as his work grew under his hand.

One of the most interesting portions of the Guildhall is the Crypt, which forms the eastern portion of the substructure of the Hall. It measures 76 ft. by 45 ft. 3 in., and averages 13 ft. 7 in. in height. It consists of three avenues of equal width, and is one of the few examples still remaining in London of Mediæval crypts. The next on record is that of St. Stephen's, Westminster, which is of different aspect, as it measures 90 ft. by 28 ft., with a height of 20 ft. The restoration of this Guildhall crypt in 1851, by the City Architect of that day, Mr. J. B. Bunning, F.S.A., afforded the opportunity of adding an entrance on the north side, by which means increased facilities of access were given, and it became in consequence more generally visited and examined. The woodcuts representing the windows, pillars, bosses, and shields of arms, give an excellent idea of the sculpture in this part of the Guildhall. The chapel is another noble portion of the Guildhall. This also dates from the fifteenth century, but there had been a chapel at a far earlier period on the site. Abutting on the south side of the chapel stood Blackwell Hall, which had an extended front of brickwork about 105 ft. long, with a bold overhanging cornice and pediment supported by carved "modillions"; a moulded plinth and two string-courses relieved the face, dividing the stories of window openings with their solid frames, and dormers projected from the roof. The doorway was elegantly designed. The coloured drawing of this hall by Mr. G. Shepherd, in 1811, is one of the best reproductions of old buildings in the whole of the book. This curious specimen of ancient brickwork was removed in 1820. The Aldermen's Court-room, and its ceiling,—a fine work painted by Sir James Thornhill,—also reproduced in colour, are two instances of the many invaluable specimens of the handiwork of the upholsterer, the decorator, and panel-painter which the Corporation possesses. The Council Chamber, which furnishes another excellent plate in colours, also deserves notice for its harmonious and pleasing proportions. The new Council Chamber, by Mr. Horace Jones, first used in 1884, and of which an illustration appeared in the *Builder* for Dec. 1, 1883, is, of course, far more elaborate, but is somewhat overdone with carved details, with which the clustered columns and wide-spanned arches of the arcade barely accord. They appear to belong to an earlier style than the elaboration of tabernacle work with which they are surrounded.

Want of space forbids our entering upon any account of the latest phases in the history of the Guildhall. Its library, its museum, its banquets, its monuments, its charitable organisations, are all chronicled in Mr. Price's pages, and the reader who sits down determined to master the contents will indeed find a goodly feast for the mind stored up therein. The ancient Roman relics, though of considerable interest, seem scarcely so numerous, nor of such a fine class as we should have expected to see in the local museum of the greatest city in England. A few sculptured stones, a fragmentary mosaic pavement, an inscription or two, a dozen red ware bowls, some ancient lamps and bronze figurines, and a few leathern shoes appear to make up the tale of the Roman antiquities which Mr. Price has selected for reproduction; and Mediæval relics are represented by a so-called Norman jug and some leathern jerkins of the sixteenth century. Still with such a wealth of illustration as this book exhibits there is no need to find fault with this part of it. Perhaps the Corporation may see fit to entrust Mr. Price with the duty of preparing a companion volume, devoted to the elucidation of the numerous and attractive treasures of literature and art stored up in the museum of the Guildhall. If he expends as much time and care upon it as he has done in this present work, and they on their part are willing to be as liberal with such a subject as they have been with this, it will not be a fruitless undertaking.

RESTORATION AT ST. MARK'S, VENICE.

DR. PIETRO SACCARDO, the architect, has recently reprinted from the *Archivio Veneto* (Series 2, t. xxxii., pl. 2, 1886) an account of the principal works executed at the basilica of St. Mark at Venice during the year 1885, together with a sketch of those proposed to be carried out during the year 1886.

It is perhaps rather late in the day to protest effectually against any works proposed to be done during the current year, but the document is instructive from the simplicity of its narrative, and exhibits a curious view of what an educated Italian thinks is the proper treatment of an ancient monument.

The author commences by observing that in the account of the work done during the year 1884 it was stated that the restoration of the last arcade of the principal front had not been completed, as the work was connected with the rectification (*riforma*) of the south side, the execution of which had been delayed by the reinstatement of the retro-altar of the chapel of St. Zeno, which was then approaching completion. Further obstacles also presented themselves in the shape of urgent works which constrained the employment of the limited number of workmen at the disposal of the authorities in other parts of the church. The work itself presented unusual difficulties, it being requisite to modify a portion of the fabric built a few years ago, and with the idea that it would serve as a buttress and would stop the movement which for ages past has been going on from the centre towards the southward. This work Dr. Saccardo claims to have effectually accomplished; to have restored the columns which were out of the upright to their original position; and to have enlarged the arch and reduced the size of the two archivolts,—all this having been done with the approval of the Government.

A peculiarity presented itself in carrying out this part of the work. In the last restoration, which was completed in 1875, the principal front was reduced in height (*accorciata*) in this part to the extent of thirteen centimètres (5 in. English) between the bases and the imposts of the arches, the pavement being also raised to the same extent with the intention of modifying the whole of the front in a similar manner. This reduction in the height was obtained to the extent of 7 centimètres by shortening the columns of the lower order, and to the extent of 5 centimètres by shortening those composing the upper order. The remainder was made by slight modifications in the intermedaite architrave. At the present time everything, according to the author, has been replaced as it was formerly, and every member has recovered its original height without any addition being perceptible. And how was this done? asks the author, triumphantly. By an artifice, he replies, which the authorities leave the public to guess, if ever the public shall perceive what has been done when it sees this part of the front made old (*tornata antica*) as it once was. This, then, is how restoration is carried on in Venice: a portion of the west front of the basilica is restored in 1875 to what was then asserted to be its original condition, and in 1885 the work is pulled down and the church again restored to what it was before 1875. It is evident that both these restorations cannot have been right.

These are the author's principles of restoration. "To restore well," he says, "consists in doing it in such a way that nobody perceives the restoration. This is a duty and also a pleasure, but it brings but little satisfaction to the person superintending the work if, when the work is done, he hears said, 'What is the good of covering up a part of the building for a long time when there is nothing to see?'" This remark, Dr. Saccardo assures us, was frequently made when the first arcade beyond the grand entrance was uncovered, and he expects to hear it repeated when the last two arcades are finished. This, however, will not be adds, be for some time, there being a great deal yet to do to the bench at the foot, the marble revetment, and various decorative portions of the building. It appears from this innocent confession that the whole of the western front is being entirely renewed.

The retro-altar of the Chapel of St. Zeno was completed in the course of last year, and was reopened towards the end of July. The polishing of the columns and other marble on the south front has been continued, and attention is called to the columns of red Oriental (Egyptian) granite on the left of the altar, which has been polished to such a degree that it sparkles, according to the architect, like a precious stone. The extreme hardness of this granite had almost induced the relinquishment of any idea of completely polishing it, but Signor Giacomo Boni having made an experiment upon a small scale, persuaded the authorities to persevere, and the operation resulted in what the architect considers was a splendid success, but which many artists will be inclined to believe was a deplorable mistake. The polishing of certain portions of an old building must inevitably destroy the harmony of colour which constitutes its chief charm. The introduction of polished granite into an architectural composition is always attended with some degree of risk, and a comparison of the design of the Carlton Club, Pall Mall, in which the columns on the upper story are of polished granite, with the palace at Venice, from which the Carlton Club is copied, where the columns on the upper floor are of stone, and are unpolished, will certainly result in a judgment in favour of the superiority of the older design.

"Returning to the principal front," continues the author, "we find ready prepared the new base of magnificent coralline breccia, which is to replace the base of one of the large porphyry columns which flank the principal doorway. We find also the large bronze gate of the last door towards the clock, which had remained closed for the last two years on account of the damage to the architrave, which has been repaired, as approved by the Minister of Public Education, in his despatch of the 4th of April, 1884 (No. 5,868), has been re-opened.

"On entering the atrium and turning to the

right, we perceive the tomb of the Doge Vitale Falier, with its marbles consolidated and restored in the upper part of the walling, which has been entirely renewed, together with the niche formerly crowned with his dentilled roundel, of Grecian marble (*sua ghiera di marmo greco a dentilli*), which is now approaching completion, with the gold mosaics of the background, the whole being ready to be placed in position.

"On the opposite side on raising one's eyes one no longer perceives the serious eyesore of the crooked and disconnected cornices of the last two little cupolas on the left and those ugly cracks and blackish stains which spoiled the mosaics of the cupolas, and of the vaults and lunettes surrounding them, the whole of the mosaics having been taken down and properly replaced (*levato e ricollocato a posto regolarmente*) as well as repaired and cleaned; the most important is the celebrated mosaic of the 'Judgment of Solomon,' by Bianchini, which had been only too much damaged by numerous restorations, and from neglect had become almost unrecognisable.

"Casting our eyes around the interior, the wall screens and pilasters, the cores of which, in my report for the year 1884, I noticed as having been rebuilt, have now been re-invested with their ancient marble lining, and present the same appearance as formerly, with the exception of being ruinous and falling; they now defy the action of time by the firm and solid manner in which they have been strengthened and connected with the main walls. Looking down upon the pavement we shall see that large portions have been relaid (*rifatti*) in the ancient manner (*all' uso antico*), and with those superb ancient Oriental marbles with which the basilica has been copiously enriched within the last few years from the ruins of Aquilera and Concordia. The restoration of the pavement, which in this part has been damaged beyond measure, is still going on, the work being done by a sympathetic and intelligent old artist, one of the most able men in Venice at this kind of work, who, notwithstanding, is satisfied to accept the modest wages of a workman."

Mention is made of the restoration of the Reliquary which is now going on, and for which the sculptor, Soranza, has modelled twenty-seven statuettes for the smaller niches, and replaced a considerable portion of the decoration where missing or decayed. The altar of St. Peter in the Chapel of St. Peter has also been renewed, in a manner which appears to be quite satisfactory to the architect and the cathedral authorities. The mosaics over the altar of the Blessed Virgin Nicopeia having become, as is alleged, detached and ruinous through the percolation of water through the external wall of the church, have been thoroughly restored. The Chapel of St. Isidoro (commenced by the Doge Andrea Dandolo about 1125, and completed by the Doge Giovanni Gradenigo, the successor of Marino Faliero, in 1355), which until recently was used as a sacristy, has been completely restored and re-adapted to its original purpose as an oratory. In the words of the author, "without having lost any of its antiquity, majesty, and its intensely picturesque appearance, it makes a rare show, and displays the splendour of its treasures to the best advantage." This declaration we feel we have every reason to regard with the greatest suspicion.

This restoration, we are informed, involved long and patient care for its accomplishment. The ceiling was full of cracks, and in one place the head of a figure was separated as much as 3 in. from the body. Large portions of the mosaics of the ceiling were removed and refixed, the deficiencies being supplied, the displaced parts re-arranged, and an enormous quantity of cubes of glass and marble used where necessary.

The mosaics in the ceiling of the Chapel of St. Zeno have been refixed, and have, it seems, been universally admired. Other works are the removal of a wooden balustrade to the gallery over the Chapel of St. Clemente, which was decayed and dangerous, the rearrangement (*la riforma*) of the door behind the altar in the same chapel, the conversion of some rooms in the rear into a laboratory, the restoring and polishing of the columns of verde antique at the back of the Pala d'Oro, and the re-arrangement of their capitals.

Some idea may be gathered of the extent of the work going on at the basilica from the amount of marble which it is stated in the report has been warehoused for use in the work of restoration, about 130 feet cube of marble having been obtained for the south and west sides of the cathedral. This marble is very valuable, costing 5*l.* 17s. 6d. per foot cube, and is sawn into extremely thin slabs.

The total sum spent on the works during the year 1885 amounted to 64,946 lire, or about 2,597*l.*, which is considerably in excess of the annual sum allocated for the purpose. This amount is swelled by some extraordinary expenses, among which figure 110*l.* for new banners (!); 182*l.* for the cartoon of a mosaic of Paradise by Girolamo Pilotti, purchased at the request of the Minister of Public Instruction; the restoration of the right-hand organ, which cost 58*l.*; some trifling repairs (*alcune puntate*) to Orgagna's work, which amounted to 18*l.*; and law expenses, which cost 112*l.*: the total amount being 480*l.* These extraordinary expenses are taken out of the reserve fund, which, notwithstanding this debit, amounts, it appears, to 1,725*l.*

With regard to the works to be undertaken during the current year, the most important, in the opinion of the architect, is the completion of the restoration (*riforma*) of the principal front as approved; in the interior it will be necessary to complete the Chapel of St. Zeno, restoring the semicircular portion where perished and refixing the defective facings of the rest of the walls. Some portions of the ancient mosaics of the roof which have been removed require to be refixed, and it will be necessary to take down and refix the mosaics in the semi-apse (*semi-catino*), preserving the two angels, and making new (*rifacendo*) the figure of the Virgin with the Child, which has been badly restored. With regard to this figure it is intended to use a figure of similar character in the apse of the cathedral at Torcello, of which it is proposed to make a tracing as a model for the new work.

The monument of the Doge Dandolo, already referred to, will be completed, the decoration carried through, and the missing portions replaced. A portion of the external covering of the roof and of the cupola is said to be in want of repair. As regards the cupola, it is proposed to repair it, where in sight, with sheets of old lead, in order that it may retain its picturesque appearance. It is also proposed to restore the stonework of the three circular windows in the principal front.

With respect to the pavements, these are Dr. Saccardo's own words, which are important, as in a recently-published letter he asserted that the report that he proposed restoring the pavement was entirely without foundation (p. 26):—

"In the interior of the church one of the most urgent works is the regulation (*riforma*) of the large piece of pavement, composed of slabs of marble, which is under the central dome, on account of its partial sinking, which appears to increase, and occasions frequent and dangerous falls. It will be also necessary to continue the restoration of the pavement in the body of the church, as well as in the vestibule (*si nell' interno, come nell' atrio*), adapting and making use, possibly, of the mechanical saw, with regard to which experiments are being made, as already explained."

The marble altar for the Chapel of St. Peter is in hand. It will also be necessary to complete the restoration of the Reliquary and the Chapel of S. Clemente. Another urgent work is the draining of the crypt, which is filled in parts with water, which renders it not only useless, but unhealthy.

Finally, as regards the mosaics. The work remaining to be done is the restoration of the large screen over the altar of the Madonna, which has already been approved by the Government, and possibly a general examination of the whole of the mosaics.

Dr. Saccardo concludes his report by regretting that the Government will not allow him to clean the marble facing of the screens in the interior, and winds up with the following remark, which we give in his own words:—"*E cosi, mentre sui muri esterni delle chiese si suole communemente, 'E proibito di lordare,' sui marmi di S. Marco sta scritto invece, 'E proibito di lavare.'*" *

The Government are probably aware that in some instances the cathedral authorities did not confine themselves to the use of water for cleansing purposes, but made use occasionally of hydrochloric acid; and they are therefore wise in declining to give the permission desired, although why they should allow the mosaics to be not merely cleaned, but absolutely made new, and should not allow the marble screens to be cleaned from dirt, will be a puzzle to most of the uninitiated.

* Thus while on the external walls of churches you commonly see "Commit no nuisance," on the marbles of St. Mark's it is written, "It is forbidden to wash."

NOTES.

IT is not a very satisfactory feature in our administrative organisation that the Metropolitan Asylums Board and the Local Government Board cannot make up their minds as to the character of the buildings to be erected for small-pox patients, whether they shall be the old wooden huts, or a new and permanent brick hospital at a cost of 84,000*l.* There is much to be said on both sides, the principal argument which the Local Government Board advances in favour of wood huts being that of economy. It is better, says the Board, to spend 20,000*l.* instead of 84,000*l.* The Asylums Committee answer that the saving is more seeming than real. The wooden huts, if they are to be really useful in summer and winter, will cost only from 20 to 30 per cent. less than brick, while the cost of the repairs will be double and the duration not more than one third. The huts, moreover, would get saturated with infection (a strong argument), and be far more liable to fire and total destruction. The Committee point out that the huts and plant now in the camp cost 48,000*l.*; that, after eighteen months, their value has shrunk to 12,000*l.*; and that the establishment expenses (quite apart from the maintenance of patients) were 32,000*l.* Both Boards are agreed that so much has to be spent on new buildings, and the point at issue is, shall they be of wood, which costs less at the time, but will not last, or brick, which will cost more, but be permanent? The dispute, in which the Local Government Board naturally has the upper hand, seems to have assumed a somewhat personal aspect, the Asylums Board being very united in backing up its opinion. The only dissentient is Sir Edmund Currie, who believes that the wood structures will last at least twenty years, by which time the arrangements of any new hospital would possibly become obsolete.

THERE is very little doubt that cremation is making rapid progress on the Continent, and especially in Germany, where cremation societies are starting up in several towns. The body of a Cabinet Minister for Brunswick has lately undergone the operation, as also has that of the Superintendent of the Evangelic Church, and these two examples in such high quarters have given a decided fillip to the system throughout the country. Italy is about to adopt a new form of electric crematorium, in which the body will, it is stated, be instantaneously disposed of, though this is scarcely likely, nor, indeed, would it be entirely desirable. According to the latest report of the Gotha crematorium, the actual cost of cremation is 430 marks (21*l.* 10s.), though this sum does not include any accessories of the service, which are provided according to taste. The ashes of the deceased, which weigh only about 4 ounces, are given house-room for a certain time at the establishment without expense, but are, at the end of that time, handed over to the owners to dispose of them as they think proper. In this country

cremation moves but slowly, Woking having recently had its eleventh operation, though it is worthy of notice that it attracts no attention now, and that the ridiculous clamour which characterised its first introduction has quite died away.

THE opening of the Severn Tunnel, on December 1st, for passenger traffic, is an event of considerable importance in the railway world; and although the full benefit of the union of the Gloucestershire and Monmouthshire sides will not be all at once felt as far as the through traffic to London, the local ports, such as Cardiff, Newport, and Bristol, will be benefited immediately. The intercommunication between these busy industrial towns is always on a very large scale, and the fact that some ten trains will daily bring them within an hour of each other, cannot fail to benefit the South Wales coal trade enormously. From the North of England we hear that the branch Windermere line is to be extended to Ambleside, whence before long it will probably go on to Grasmere and Keswick, where it would meet the Penrith and Cockermouth line. The residential population in this part of the country has so greatly increased that a railway has become a necessity, and the landowners have shown their conviction of this by giving land and assisting the new scheme in every way. In Derbyshire, the London and North-Western are going to make a branch from Buxton to Leek, through Hindlow. This will open up a bit of hill and moorland district which is very little known, and to the exploration of which it is quite worth devoting a few days.

THE re-opening services on the completion of the first section of the restoration at St. Bartholomew's Church, Smithfield, took place on Tuesday last, November 30th. The Bishop of Colchester, in the course of his sermon at the morning service, reviewed the history of the church. At the close of the service opportunity was taken by many of those present to inspect the large quantities of worked stones which have been found from time to time during the progress of repair. These consist for the most part of carved portions of arches, capitals, bases, and shafts of twelfth-century arcades, as well as other portions of the decorative sculpture, from a building which is conjectured to have stood on the site of the Lady-chapel itself; there are also nearly the whole of the traceries of the large eastern window, and numerous moulded voussoirs of fourteenth-century work. Among the miscellaneous relics are an iron sword, an iridescent glass vessel of the sixteenth century, a Bellarmine or greybeard jug of bluish-grey pottery, of the same period, and several carved and winged cherubic heads with lusty cheeks, of a later date. The new part of the apse does credit to Mr. Aston Webb, the architect. It harmonises thoroughly with the rest of the building, for all its details are derived from corresponding measurements in the extant portions of the ancient work. We fear, however, that the position of the clergy and choir in stalls under the organ at the west end of the church will be found inconvenient. It is interesting to note that not a single stone of the work which was carried out by Professor Lewis in 1866 has required to be removed, so thoroughly compatible was his work with the true spirit of the required repairs. The dangerous condition of the great arches of the crossing, on account of the absence of transepts, is apparent, the nave walls being, in some cases, out of line and out of plumb: hence the re-erection of at least shallow transepts is a pressing need; they would give great support to the walls and roof. Another imperative work is the removal of the forge, which was in full swing during the service on Tuesday last. The unseemly clanging and the frequent vibrations caused by heavy sledges pervaded the whole building; and apart from this, the chimney of the forge, which is actually within the church, jeopardises the very existence of the building, as a fire might break out at an unexpected moment.

IT appears that the Executive Committee re the Wellington Statue have decided to place the statue on the ground immediately in front of Apsley House, the statue to face Apsley House, on a line axial (we presume) with the centre line of that building, and so as to be seen in profile eastward and westward from Piccadilly. This is unquestionably the best place for the statue, and this was the position proposed by the present editor of this journal in a letter and plan under his signature, addressed to and published in the *Builder* more than four years ago,* before the regrettable removal of the arch, which numbers of persons (including those in official places) are now beginning to see was a blunder. The statue will probably have a kind of square stepped terrace formed around it, as far as the limits of the plot of ground allow, the inevitable corner pieces being made the best of in some way. What can be done, however, with the shoulder-of-mutton pieces of ground which the present surveying-clerk's method of "laying-out" (?) the site has left?

WE see by the agenda for this week's meeting of the Metropolitan Board of Works that the Works and General Purposes Committee will present a further report on the whole question of the appointment of a Superintending Architect, recommending—

(*a*) That advertisements for the office of Superintending Architect be inserted in the leading professional papers; that the age of the candidates be unlimited, and that the salary be 1,500*l.* per annum.

(*b*) That the candidates who have already applied for the office and sent in their testimonials be informed that their applications will be considered, together with those which may be received in answer to the further advertisement, unless they express their wish to withdraw.

Some gentlemen who were exceedingly irate with us for venturing to say that the list of candidates was inadequate to the occasion, will therefore be able to gather that the Committee, at all events, is apparently of the same opinion with ourselves.

AT the same meeting of the Board, the Committee will also present a report stating that, having fully considered the reference by the Board as to the death of the Superintending Architect in connexion with the pension recently voted to him by the Board, the Committee regret that they are unable to advise the Board to take any action in the matter. On this point we observe that Mr. Richardson has given notice of his intention to move:—

"That it be referred to the Works and General Purposes Committee to consider and report as to the remuneration to be given to the representatives of the late Superintending Architect in consideration of his services given at the special request of the Board from and after the date of his resignation to the day of his decease."

NOT before it was much needed Messrs. Bohn have issued, in their "Classical Library," a translation of the ten books of Pausanias, the "Description of Greece." The fact that up to the present time no translation into English has been made since 1794, testifies in the most conclusive way to the utter neglect of archæological study by the ordinary classical scholar. The translator of 1794 remarks in his preface, most truly, "As to the ensuing work, it ever has been, and doubtless ever will be, considered as an invaluable treasure of Grecian history and antiquities; for Pausanias, with the most consummate accuracy and diligence, has given an account of the temples and remarkable buildings, the statues and festivals, and games and sacred offerings, the mutations of empires, and the illustrious transactions of kings in every part of Greece." Yet this invaluable treasure "has been, save for the specialist, practically hidden in a field." No less remarkable is it now that Pausanias is obtaining an ever-increasing popularity; the new translation by Mr. A. R. Shilleto, of Trinity College, Cambridge, has an eager public waiting for it. We have reason also to believe that very shortly two other translations will be offered to the public; one of the complete work, with archæological "notes," another of a portion only, profusely illustrated from ancient art. There is room for both. Mr. Shilleto's translation has no notes of any description, either literary or archæological. To discuss the text would here be manifestly out of place; we must note, however, that the book has an excellent index.

* See *Builder*, April 22, 1882. "Sic vos non vobis mellificatis apes."

THE October number of the excellent series of "Professional Papers on Indian Engineering" contains notes and illustrations on several constructional matters of special interest. One of these is a paper by Mr. J. C. Larminie on the utilisation of disused railway rails, accompanied by a plate showing a proposal for such rails as substitutes for the timber beams usually employed to support the screw gearing of weirs and sluices in India; the drawings having been prepared for a tank weir in the Tinnevelly district. The rails are easily put together, and form less obstruction to the passage of the water than timber piers. The idea of turning disused railway iron to account in this kind of way is certainly worth attention from an economic point of view. Mr. Milne, of Madras, contributes a paper and illustrations on the construction of terraced roofs so as to provide for the movement of the roofs from various causes and separate them from rigid attachment to the walls, a matter of much importance in India, where flat roofs are so largely used, and which is of some interest also to English constructors. These are among the shorter papers of the number; other longer and more elaborate papers include that by Captain Harrison, R.E., on "The Stresses developed in the Girders of Mr. Whiting's Stiffened Suspension Bridge," and another paper by the same author "On the Stability of Structures employed in Spanning an Interval."

WE have received the second edition of Mr. Herbert Griffiths's "Guide to the Iron and Steel Trade,"* giving names of manufacturers and list of brands. The trades tabulated include iron smelters, iron manufacturers, steel converters, steel-rolling mills, plate manufacturers, galvanised iron and wrought iron tube manufacturers, the brands of each class of trades being appended as a separate list. The book is very fully and clearly indexed.

THE fogs with which London was last week plagued point to the obvious need of proper preparations being made to mitigate their inconvenience as much as possible. The word "inconvenience" in relation to these visitations is perhaps scarcely strong enough, for they cause loss of money and time which in the aggregate amounts to a very large sum. It is obvious that what is needed to mitigate the consequences of these fogs in the thoroughfares of the metropolis is stronger light. Where the Argand and Sugg burners with strong reflectors are used the inconvenience to the traffic is considerably lessened. But where there is no other light than the ordinary single gas street-lamp, the latter has little more power over the fog than a farthing candle. It is questionable, however, whether the ordinary street-lamps might not be lowered with advantage, but certainly at some places in the chief thoroughfares powerful lamps should be erected, to be lighted when London is enveloped in a fog. Near such lamps the traffic would be re-organised.

THE days when to travel through the Peloponnese was an adventure are now, indeed, at an end. The *Berliner Philologische Wochenschrift* (of what other country but Greece would the railways be reported in a philological journal?) gives the following particulars of railways actually open. First is that from Athens to Nauplia, with stations at Megara, Corinth, and Argos. We wonder if any one now will face the horrors of the local steamer, or will the

* Published at the *Iron Trade Exchange* Office.

steamer cleanse itself from its past iniquities to compete with the railway? We conjecture that the tourist will go at least one way by rail to visit the robber Skiron; the cliffs are still steep, though the tortoise at the foot no longer battens on the bones of the travellers. "Poor tortoise, no traveller!" as the child said of the lion who got "no Christian." Next from Corinth to Pallas, all along the gulf. From Argos to Myli, nearly opposite Nauplia; Pyrgos to Katakolo; Athens to Thorikos, between Pentelicus and Hymettus. The iron bridge which is to cross the cutting through the isthmus is finished, and the isthmus itself will shortly be cut through,—a great boon, not only for trade, but for the pleasure-seeking and, let us hope, inscription-collecting yachtsman.

THE Πρακτικὰ for 1885 of the Athenian Archæological Society (which appears a year late) is specially valuable this year on account of the excellent plans of excavations from the hand of Dr. Dörpfeld. We imagine that the readers of the modern Greek text which accompanies the plans will in England be few, but happily the plans speak for themselves, and we hope many will inspect them. The first report relates to Epidaurus, and is from Dr. Kabbadias, the new Director of Antiquities. From time to time we have given particulars of the various discoveries in the course of the excavations, but till the issue of the present report anything like a complete view was impossible. As yet the whole of the sacred enclosure described by Pausanias has not been laid bare, but quite enough has been done to confirm and illustrate his account. Not only have the foundations of the actual Asklepios temple been dug out, but also the temple of Artemis, with its dog-headed water-spouts, characteristic of the hunter-goddess. Three plans are devoted to the illustration of the Epidaurus excavations, a fourth to Eleusis. The excavations here have yielded very complex results. Dr. Philios, who writes the report, thinks he can distinguish as many as six strata or periods:—1. The most ancient temple of all. 2. That destroyed by the Persians. 3. The temple as immediately rebuilt. 4. That of the time of Perikles. 5. The portico of Philon. 6. The internal changes made by the Romans. The third report, with its accompanying plan, deals with the Amphiareion at Oropos.

IF the Prudential Assurance Company have really, as stated, purchased Staple Inn with no intention of pulling down, rebuilding, or by any means treating it as a mere commercial speculation to return as much money as possible at all costs to architecture and archæology, they certainly merit a special paragraph of appreciation from those who are interested in the picturesque of architecture, and in the historical associations of Old London. The proceeding is so unlike that which is habitual in the present day (especially with "companies"), that it is somewhat difficult even to give full credit to it. We wish there were more companies in London with the same spirit pervading them.

THE Chairman of the Chelsea Vestry reported to the Vestry in December last that the Surveyor had informed him that the agent of a disinfectant manufacturer had offered him a bribe to recommend his goods to the Board. Mr. G. R. Strachan, the Surveyor, also made the allegation to the Vestry; and the discussion which followed, as to whether any proceedings should be taken in the matter, was reported in the local papers. Actions for compensation for libel were instituted by the manufacturer and his agent against Mr. Strachan and one of the local newspapers. It is now reported that these actions have been abandoned, which may be taken as a practical admission that the actions would not hold water; but we should have been glad to see a test case of this kind fairly tried.

THE Exhibition of the Society of Painters in Water Colours, though containing few large or elaborately-finished works (and these are mostly not the best of the collection), is a most admirable one in regard to the number and quality of sketches and studies, many of which represent artistic styles of very marked originality. Mr. Naftel's works seem to gain year by year in artistic feeling and in atmospheric effect; "Near Pont-y-Caffyn" (33) recalls Corot a little, and perhaps inclines rather too much to the misty manner of that artist. Among other studies of special effects may be named Mr. North's, "The Bat begins with giddy wing" (15), to which title he considerately adds, "barley-field over the hedge." We could not gather that from the picture, though the tone of the scene is beautiful. Mr. North would perhaps reply that neither could we in nature differentiate a barley-field, viewed *en masse*, except by colour. Mr. Eyre Walker is very strong in special atmospheric effects (see 21 and 40),—another artist who is always doing better than last year. Mr. Tom Lloyd's small "Home" (99) is more interesting to us than his larger drawing, "The Favoured One" (101), though, of course, there is less work in it. Mr. Herbert Marshall exhibits a fine view over "Winchester" (108), and it may be noted that there is rather a full proportion of architectural subjects, including various drawings of the triumphal arches of Rome by Mr. H. P. Rivière, also Mr. Wallis's "Courtyard of a Jew's House at Cairo" (56), Mr. Marshall's "Dordrecht Cathedral" (62), Mr. Glennie's "Gateway of Massa Carrara" (212), and two lovely and quite magical little sketches of Lucerne, by Mr. Albert Goodwin (228, 280). Mrs. Allingham has several works as delicate and beautiful as ever in landscape effect, and in the character and truth of her often minute figures, of which the features and expression seem quite complete on however small a scale, yet without a touch of hardness. It is impossible to name a tithe of the works that invite mention; we may cite, among others which struck us especially, Mr. Gregory's powerful landscape, "Gorse" (201), with figures somewhat à la Mrs. Allingham; and Mr. T. J. Watson's "Farm-yard, Surrey" (138), a broad De Wintish kind of thing; Mr. Phillips's "The Glyders, North Wales" (104); Mr. Thorne Waite's "Shoreham" (96), and Mr. H. Marshall's "Last Breath of Day" (72). M. Robertson's "Alnaschar's Dream" is a brilliantly-executed work, perhaps rather failing in dramatic power in telling the story.

THE Institute of Painters in Water Colours is an unsatisfactory exhibition to go to, containing a great many works up to a certain level, and very few that rise to the highest kind of interest. We are glad to find that some old members who used to persist in exhibiting the decay of their powers and perceptions in disproportionately large drawings have subsided a little, which is one thing gained for the character of the Exhibition. Mr. Edwin Hayes, in certain large and, in their way, successful sea pieces, rather curiously recalls the manner and style of Stanfield. Miss Pickering's "Sea Maidens" (46), a row of mermaids waist-deep in chilly water, just misses its aim; the figures are destitute of any possibility of life, even of a mermaid order. There is a good deal of beauty both of drawing and colour in her ideal figure "Luna" (262). Mr. Arthur Severn's "Waves breaking against a Sea-wall" (192) is fine in action and movement, questionable and unreal in colour. We presume the figures of sportsmen and gamekeepers in Mr. Heywood Hardy's large work "Arranging the Next Beat" (198) are portraits. In the light of a portrait picture it is very good and with much delineation of character; regarded apart from this portraiture object it would have little interest. Mr. F. D. Millet's "The Interlude" (154), an interior where a violin player is waiting while his fair companion gets through the interlude portion on an old-fashioned piano, is more highly finished, and has more power of colour and effect, than some previous works of this painter; it is one of his best achievements. Mr. Keeley Halswelle has got an effect, unquestionably, if a rather forced one, in his large "Ely" (129); and Mr. Ivystan Hetherington's "Slumbering Village" should be looked at as a landscape with an unusual and poetic effect. Mr. Fitzgerald's "Sympathy" (407) contains a good bit of flesh painting. Mr. Stock's large ideal work, "Love driven out by the World" (563), fails in the delineation of the "World," who is far too respectable an old patriarch to take such a step, but the figure of Love is good. Mr. Hemy's "Land's End Crabbers" (699) is a capital work; Mr. Carrick's "Boy at a Pool" (733), a small painting, with genuine character in it. Among the humorous works, of which there are always some in this Gallery, may be named, Mr. Forbes's "Adam and Eve" (348), a repetition of the temptation to eat an apple; Mr. Dadd's "Good Old Days" (184); Mr. Burton Barber's "Two's Company, Three isn't" (538), Mr. Gore's "The Dog it was that Died" (43), &c. For sheer vulgarity, the big and elaborately-painted work called "An Egyptian Study," a portrait of Arabi's former "Counsel" in his study, may certainly carry off the palm.

IT is a truly exquisite exhibition which Mr. Sutton Palmer has made at Messrs. Dowdeswell's, of his water-colour drawings from the English Lake Country. Mr. Palmer is a pure water-colourist, bringing into play the essential beauties of this form of art,—aërial tones, delicate distances, a beautiful atmospheric transparency and light. The drawing of the landscape is as true and fine as the colouring and aërial perspective, and the scale and distance in some of these small drawings is remarkable. There are seventy-six in all, among which we may mention as especially good, "Helvellyn, Thirlmere" (2); "Waterhead, Windermere" (15); "Rydal Vale" (20), a broadly-treated sombre wooded landscape; "Departing Day, Rydal Water" (27); "Silver Morn, Thirlmere" (32); "Sunny Haze, Langdale" (50). There is scarcely, however, a weak drawing in the collection; it forms a worthy series of illustrations of one of the most beautiful of regions, and distinctly advances Mr. Palmer's place among contemporary artists. The only thing we object to in connexion with the exhibition is the bad taste and folly of sending round a printed opinion from Mr. Ruskin with the invitation tickets, and tacking it on to the programmes. This is a kind of impertinence that ought to be protested against. People of any artistic knowledge wish to form their judgment, and not to have that of Mr. Ruskin pitched at them, as if they were children, to believe whatever they are told.

THE Society of British Artists used to be chiefly dull; it is now chiefly eccentric. It has entered into the stage of Whistlerdom, and part of its old makers of commonplace have been shut out from bliss, and most of the others have been seduced more or less in the direction of Whistlerdom. Mr. A. Ludovici, jun., seems to have aimed at out-doing his model, in his painting of the ghost of a ballet-dancer spinning round on her toe (170); he has caught some of the capacity of his chief for representing action also; it is very clever, but "don't do it again." Mr. Whistler labels as "unfinished" what is to the eyes of the Philistine the most finished of his works exhibited here, the full-length portrait (259) of a lady whose name is at present before the public in a very painful manner. His "Harmony in Red—Lamplight" (227) is a fine thing. Near to this Mr. G. Clausen, one of the "dauntless three," has a half-length called "A Girl's Head" (229), which is admirably painted, and serves as a good practical comment on his claims for better treatment at the Academy. Mr. Jacomb-Hood's "A Portrait" (250) is a delicate and characteristic painting of a young woman seated, entirely in black, her face and hands showing a very delicate flesh colour against the dark raiment, though there is little of the texture of flesh to be made out in it; but then we have changed all that. "A Summer Day" (245), by Mr. William Stott, "of Oldham," makes one wish that he and his works had remained at Oldham; this picture, representing three odious little naked

boys with parchment skin, in the middle of an expanse of brown which means seashore, is a veritable degradation of the art of painting. A small work, called "Rehearsal: the End of the Act" (260), by Mr. Walter Sickert, should be looked at; there is an idea in it. Mr. Whistler's drapery of the room is very successful and effective, and his remark in a letter to the *Times* (which that journal seemed to regard as a joke and relegated to a "par." corner), that there was no need to remove the battens above the picture-line, as they added to the decorative scheme, is quite correct: they furnish a couple of horizontal lines to contrast with the festoons; their removal would be a loss. Altogether, both instruction and amusement are to be obtained from the Society of British Artists' Exhibition; and that is more than could be said of it for some time back.

LETTER FROM PARIS.

Last week the competition for the painted decorations for the new Mairie at Pantin was decided. As this is one of the more important buildings of the suburban district, the departmental assembly was generous, and a total of 55,000 francs was voted for the work. It must be admitted that as this sum is to provide for the decoration of the Salle des Fêtes, the Salle des Mariages, and the chamber where the local authorities hold their sittings, as well as for the staircase decoration, the cost of each painting is after all but modest.

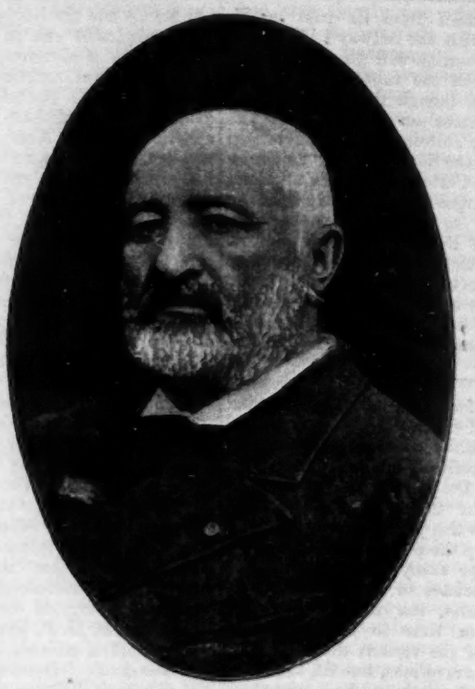
Owing to the not very flourishing condition of art in general and of painters in particular, this new competition has been responded to with avidity, and among the seventy competitors are many of the best known painters, who, in general, would hardly care to enter the lists in a matter of this kind.

The competition, as usual in these cases, is a double one; the three competitors selected by the jury as the best will compete anew between themselves, and present a portion of their composition full size for the final decision in February. The three painters selected are MM. François Lafon (pupil of Cabanel), Henri Lévy (pupil of Picot, Fromentin, & Cabanel), and François Schommer (pupil of Pils & Lehmann).

The first has confined himself to pure allegory, and his composition, a little mannered but agreeable and harmonious in colour, will, at all events, suit very well for the Salle des Mariages. M. Lévy has already shown very fine qualities in his Panthéon decoration, but he has here gone into the world of dreams entirely, and one can hardly see, in a commune essentially prosaic and industrial, the suitability of his Neo-Greek composition of "jeunes beautés, troupe agile et dansante," posing in an idyllic landscape. The large staircase ceiling symbolising "Work and Plenty" is much finer, and shows true artistic feeling. As to M. Schommer, he has more happily gone to actual French history for the inspiration of his principal painting, showing the defence of Pantin in 1815 against the Russian army. Although Paris and its environs offer to painters a store of subjects of this kind, this is the first of such occasions in which we have known a painter quit for these subjects the well-worn paths of mythology; M. Schommer's attempt in this direction shows the hand of a master; and if he obtains the commission, his success will be a good example for the future decoration of new civic buildings.

This same Commune of Pantin had been chosen by the administration as the site for one of the two new Parisian cemeteries intended to replace the great necropolis which had been projected at Méry-sur-Oise; the other will be at Bagneux. They will not equal the area of the immense plan proposed for Méry by the Imperial Government, and subsequently taken up by the Republic, and which would have been realised now but for the unfortunate obstinacy of the Municipal Council. The cemetery at Pantin, nevertheless, includes 103 hectares and that at Bagneux 67.* Thanks to M. Formigé, the architect, something really fine has been done with the entrance gates, and the interior has been very well arranged. It is probable that the mortuaries, for which M. Formigé has presented designs to the Municipal Council, will be annexed to these two cemeteries. These mortuaries are partly based on suggestions gathered from an inspection of buildings for the same object in England, Belgium, and Germany. The Municipal Council has also taken up the idea of a monument commemorative of the French Revolution. So far nothing better, since it is a monument of the event of 1789, not of the saturnalia of '93, and besides, it should furnish commissions for sculptors, who are suffering like others from the present depression. But when the Council wished for a site in the Tuileries, which does not belong to the municipality, the Minister of Fine Arts turned a deaf ear, the "Conseil des Bâtiments Civils" kicked against the idea, and finally consented only to a very small site at the end of the parterres of the Tuileries garden. Hence much wrath among the City Council, who are not to be appeased, and refuse to contribute financially,—or otherwise,—to the actual project of the Government. The matter is to be submitted again to M. Goblet, Minister of Fine Arts, in order that it may be formally brought before Parliament.

* A hectare is nearly 2½ English acres in extent.



M. Alphand, Director of Public Works, and of the 1889 Exhibition Works, Paris.

While awaiting the separation of the Church and the State,—which is the Utopia of all advanced Republicans,—the Council is occupying itself with a general inspection of the works of art placed in all the civil and religious edifices of Paris. This is, there can be little doubt, an ill-disguised menace, and the Council thinks evidently of resuming possession, sooner or later, of all the artistic riches distributed among the churches of Paris, and uniting them in one collection. Fortunately for Christian art, which would certainly not gain by being thus changed in its "environment," most of these works are in the form of frescoes or other methods of painting which are indissolubly associated with the walls. As to the windows, it is fortunately impossible to touch those of St. Étienne du Mont, St. Eustache, or of any other edifice classed among the Historic Monuments under the control of the State; the project will therefore not be so easy to put in operation.

Six years ago the Administration proposed that the bust of the eminent architect of the Palais de Justice should be placed in the Salle des pas Perdus of that edifice. Unfortunately Duc had scored up against him the fact of his restoration of the celebrated grille of the Cour d'Horloge, which is ornamented with the arms of France, and crowned with fleurs-de-lys in wrought iron, gilt. For this sole reason the proposed homage to his memory was rejected! Fortunately, the Council now numbers a few artists and men of enlightened minds who are above such pettiness, and Duc will at last have his monumental bust, which is to be executed by M. Chapu.

The competition for a new girls' school in the Rue des Martyrs, for which nearly 200 designs have been sent in, will probably be decided by the time these lines appear. At Meaux, which is near enough to Paris to come into our scope, a competition has just been decided for the construction there of a Communal College, the first premium being awarded to M. Delaire, the second to MM. Calinaud and Blavette, as equal in merit, the third, on the same footing, to MM. Fauconnier and Laporte. The competition for a statue to the famous chemist, Dumas, at Alais, has also just been decided; M. Pech, pupil of MM. Jouffroy, Falguière, and Mercié, has obtained the prize, honourable mention being given to MM. Gaudez and Gilbert. The architect whose design has been selected for the pedestal is M. Delmas.

Another statue to Voltaire is imminent, but not for Paris; this is to be erected at the town of Saint-Claude, and is to commemorate the freeing of the ancient serfs of Mount Jura, due in great part to the efforts of Voltaire. It is connected with Paris though the fact that the execution of it has been entrusted to M. E. Monnier, Secretary of the Société Centrale des Architectes, an unassuming but very talented architect, whose services to the Société Centrale have been most valuable.

The subject of the gift of Chantilly has been submitted to the Conseil d'État, though it is not yet officially accepted. The bequest is really a fortune to the Institut of France, for after the annual charges are paid, which will amount to about 475,000 francs, there will still remain to the Institut a net revenue of 180,000 francs to be disposed of at its pleasure. By the terms of the Act submitted to the Minister of Public Instruction by the executors of the Duc d'Aumale, the galleries and collections of Chantilly, under the title of the Musée Condé, as well as the park and gardens, will be open to the public twice a week during six months of the year. The general management of the estate will be entrusted to three curators named by the Institut, and chosen one from among the members of the Académie Française, one from the Académie des Beaux-Arts, and one from among the other sections of the Institut. After the sanction of the Conseil d'État, a decree of the President of the Republic will be requested to authorise the acceptance of the bequest.

There is much talk in official circles about the probable suppresion of the offices of the Under-Secretaries of State, which would include the departure of M. Turquet, Under-Secretary of State for Fine Arts. Most of the artists would view with little regret the departure of this fanciful official, who has much contributed to put out of gear the Services des Beaux-Arts and of the Musées Nationaux, and whose competence in artistic matters is more than contestable: an instance of the serious inconvenience of entrusting to a purely political personage a special function of this kind, which pretends to give an official direction to art, the

SCULPTURE, ROYAL MUSEUM, LEIPSIC.

THE accompanying illustrations are reproduced (slightly reduced in size) from the *Wiener Bauindustrie Zeitung*, a recently-started and very well illustrated Viennese architectural paper. They represent a portion of the sculptural decoration of the Royal Museum at Leipsic, designed and executed by Herr Ungerer, of Munich. The left-hand figure represents the Goldsmith's art (*Goldschmiedekunst*), and the right-hand one the Brassfounders' art (*Erzgiesserei*), or it may perhaps stand for the art of working in wrought metal (other than the precious metals) generally.

very existence of which depends on its absolute independence.*

The work on the Champ de Mars for the first preparations for the Exhibition is in full activity, commencing with the preparation for railways over the whole surface of the site. A main line with sidings will connect the Champ de Mars with the railway de l'Ouest, and the wagons loaded with goods will be diverted by turntables on to the numerous interior lines which will run parallel with nearly all the galleries. These works will necessitate, of course, the suppression of the park of the Champ de Mars, the trees and shrubs of which will be preserved for the ornamentation of future gardens. The work for the iron supports to the galleries is in process of being assigned to various firms, and that for the 300-mètre tower will be commenced almost immediately. At a recent interview with the Minister of Commerce, the delegates of the Ministers of Arts, War, and Agriculture have made known the views and intentions of their various departments. The programme of the Minister of Arts is very extensive, and includes literary conferences, and theatrical representations intended to illustrate the history of the French theatre from 1789 to 1889. A retrospective exhibition of painting, sculpture, and architecture will illustrate the progress during the same period in each of these arts. The project of the Minister of War includes a historical exhibition of French arms and uniforms from the origin of "La Gaule" (!), and to this exhibition, which will be located on the Promenade des Invalides, General Boulanger proposes to add a complete study of armament and fortifications at different periods of French history. The agricultural exhibition will be installed in the same quarter and upon the quays, and also that of food products, for which the Minister of Agriculture requires considerable space. The Exhibition scheme may, therefore, be said to be fairly started.

We have unfortunately to record this month the death of several artists of talent. In painting we have lost M. Eugene Petit, whose flower-pieces at the last *Salon* were much appreciated. M. Petit was only forty-seven years of age. He was a pupil of MM. Diéterle and Muller, and several times received a medal at the *Salon*. The Imperial Administration entrusted him with the decoration of the Palace at Compiègne.

Among sculptors, we have lost MM. Bourgeois, Schiff, and Mouly. M. le Baron Arthur Bourgeois died after a long illness. He obtained the Prix de Rome in 1863, and several silver medals subsequently. He was the author of a statue of George Sand which adorns the Hôtel de Ville. M. Mathias Schiff, pupil of MM. Petre, Falguière, and Thomas, was a young and rising artist to whom we owe the equestrian statue of René II., erected at Nancy. He died at the early age of twenty-four.

In regard to the sculptor Mouly, his end was, like that of Schœnewerk, that of a despairing man, for whom artistic disappointment was aggravated by the miseries of poverty. He had exhibited at the last *Salon* an enormous statue of Vercingetorix, which he had vainly endeavoured to dispose of to the Municipality or the State. Repulsed on all sides, and not having obtained even an "honourable mention" at the *Salon*, whereas he had counted on a medal, at the end of his resources and harassed with debts, the unhappy artist committed suicide, leaving his young wife and five children only what could be raised by a public sale. We ought to mention also in this obituary catalogue the death of M. Alexandre de Sachy, who for more than forty years has directed the castings for the École Nationale des Beaux Arts. It is to his labours that we owe the fine collection of casts and models in the École des Beaux Arts, and the greater portion of his reproductions are works of art in their kind.

The New Infirmary at Workington was opened on Monday last by Mrs. Wilson, wife of Mr. Alexander Wilson. The buildings have been erected at a cost of about 3,000*l.* from designs by Mr. George D. Oliver, architect, of Carlisle.

M. ALPHAND.

As we are publishing this week the plan of the Paris Exhibition of 1889, as adopted by the Commission, we give at the same time the portrait of the eminent engineer who has elaborated this vast project, and to whom the Government has entrusted the general direction of the whole work.

Jean Charles Adolph Alphand was born in 1817 at Grenoble, and is accordingly now nearly seventy years of age, but he is still full of vigour and of an apparently insatiable activity which finds pleasure in arduous undertakings. He was admitted to the École Polytechnique in 1839, and entered two years later the École des Ponts et Chaussées, and was appointed, in 1843, engineer at Bordeaux, where he was charged with the direction of public works. It was there that he made the acquaintance of M. Haussmann, who, when he became, in 1853, Prefect of the Seine, recollected the young engineer, and summoned him to Paris as Engineer-in-chief for the embellishment of the capital. Since that time M. Alphand has become Director of the Services of Plantations, Promenades, Roads, and Lighting, and concentrated his efforts in these offices towards beautifying and sanitating (if we may coin a word) the city of Paris. His talent has been most especially shown in the transformation of waste and empty spaces into umbrageous squares. We may note particularly in this respect his treatment of the Champs Elysées, of the Bois de Boulogne, and that of Vincennes, the parks of Buttes Chaumont and Montsouris, the park of the Exhibition of 1867, and the new Paris cemeteries.

When the "Année terrible" interrupted all this, M. Alphand found new food for his incessant energy. Appointed colonel of the Legion of Auxiliary Engineers, he had under his orders no less a man than Viollet-le-Duc, and in conjunction with him he organised the fortified *enceinte* of Paris, and rendered great service to the national defence during the siege. After the Commune, M. Thiers created the post of "Directeur des Travaux de Paris" especially for M. Alphand, who is also at present Inspector

* We in England can certainly sympathise with our French critics on this head, considering the nature of some of our appointments to the post of First Commissioner of Works.

Général des Ponts et Chaussées, and Grand Officer of the Legion of Honour. This has certainly been a tolerably full life for any one man. We may add that this indefatigable worker, who finds time to direct both the public works of Paris and those of the forthcoming Exhibition, is also an able writer and an orator of the first rank. Among the productions of his pen may be mentioned "L'Arboretum" and the "Promenades des Paris." As a speaker, he has a remarkable influence over the most irreconcilable of municipal councils, and has always contrived to obtain from them the supplies he has required for his great works in the course of the transformation of Paris.

RESULTS OF EXHIBITIONS.

Exhibitions are now so far a matter of history, that a retrospect becomes a study of some interest, and especially in answer to the oft-repeated question, "Do they pay?" That is, as a speculative undertaking, and not in any indirect way. That they can be made to pay is clear from the statistics of the Exhibition of 1851 (the first of the series), which had a surplus of 186,000*l*. This was a fine profit, indeed; but then the thing was a novelty, and managers and officials came to their work in a healthy, honest manner, very different to the style of the present day. The next Exhibition (1862) was a failure, financially speaking, and the deficiency, something like 76,000*l*., was helped out by the contractors. The "Fisheries" showed a favourable balance of 14,752*l*.; the "Healtheries" left 3,557*l*. to the good; the "Inventories" had a deficiency of 5,437*l*.; the "Colinderies" accounts are not yet made up, though we can scarcely expect much balance, when we remember the immense amount of coloured water and electricity to be paid for. All the Paris Exhibitions were failures (*absit omen!*), and especially the one of 1878. The Welt-Austellung of Vienna (1873) was also a breakdown, while Philadelphia is believed to have been a commercial success, though the accounts have not been disentangled from certain city speculations in connexion with it. A tabulated statement will show all these results at a glance:—

Year.	Place.	No. of Visitors.	Total Receipts.	Surplus.	Deficiency.
			£	£	
1851	London	6,039,195	506,242	186,000	—
1855	Paris	5,162,330	138,009	—	considerable
1862	London	6,211,003	459,631	—	£76,000
1867	Paris	—	408,530	—	heavy
1873	Vienna	6,740,500	206,477	—	very heavy
1878	Paris	—	—	—	very large
1875	Philadelphia	6,140,193	798,675	Probable	—
1883	Fisheries ...	2,709,051	163,908	£14,752	—
1884	Healtheries.	4,153,490	247,048	3,557	—
1885	Inventories .	—	218,490	—	£5,437
1886	Colinderies *	—	—	—	—
1886	Liverpool ..	2,667,374	131,000	—	12,000 or more.

* Accounts not yet published.

On the whole, the results seem to have been unsatisfactory, and when we have to add those of the three undoubted South Kensington collapses in 1870–71–72, as also several of the provincial Exhibitions, they cannot be said to be successful speculations, the chief consolation being that we have done better than our Continental neighbours. Of course, the good that these undertakings do can scarcely be measured by statistics. A certain amount of money is circulated in the city in which the Exhibition is held, and a certain amount of knowledge is disseminated (but a small asset, we fear). On the other hand, much ill-feeling is often engendered amongst the unrewarded exhibitors, there is generally a good deal of jobbery, and a good many inventors' ideas are appropriated by foreign visitors. It may be safely said that, if an Exhibition cannot pay its way without fire-water-works or Eiffel towers, the game is scarcely worth the candle.

A Jubilee Medal.—In continuation of their medallic series, the Council of the Art-Union of London, we understand, are about to offer three premiums of 50*l*., 30*l*., and 20*l*., for a pair of dies for a medal to celebrate the Jubilee of Her Majesty. The medals will be 3 in. diameter, and, in bronze and silver, will form a portion of the prizes to be given in their next distribution. The competition is confined to British artists.

ARCHITECTURAL SOCIETIES.

Birmingham Architectural Association.—The second ordinary meeting of this Association for the current session was held in the library at Queen's College on Tuesday evening last. The Vice-President (Mr. John Cotton) was in the chair. The following gentlemen were elected members of the Association:—Messrs. S. J. Holliday, H. R. Lloyd, B. V. Hirsh, H. Buckland, L. Stone, J. Jephcott, G. T. Bassett, and J. R. Shaw. The secretary read memorials from the Liverpool and Manchester Architectural Societies in favour of the proposed new Charter for the Royal Institute of British Architects. Mr. T. Timmins was nominated for membership. A paper was then read by Mr. J. W. Bradley, B.A., on "Illuminated Books, what they are and how they were produced." The lecture was illustrated with many fine specimens of original MS., and copies of some of the best examples in England and on the continent. A hearty vote of thanks, proposed by Mr. W. Doubleday, seconded by Mr. W. Henman and supported by Messrs. J. Cotton, H. Lloyd, V. Scruton (hon. sec.), and H. James, was accorded to the author for his interesting paper. After a response from Mr. Bradley the meeting terminated.

Manchester Architectural Association.—At the meeting of this Association on Tuesday evening last, eight new members were elected, and after some discussion on the proposed new Charter of the Royal Institute of British Architects. Mr. A. H. Davis-Colley read a paper entitled "Architecture at the coming Manchester Jubilee Exhibition."

HEATING DWELLINGS BY GAS.

In a recent lecture before the Saxon Society of Engineers, Herr Friedrich Siemens, the well-known German engineer, dwelt on the means at disposal for preventing smoke, and the best method for heating dwellings. To prevent smoke entirely, said the speaker, was utterly impossible as long as solid fuels were used for heating, &c.; at most, it might be minimised by certain means. The only way by which there would be no smoke in the heating of dwellings was by introducing electricity, gas, or mineral oil for that purpose. The first-named had at present little prospect of becoming of general use, but the two latter had already been adapted for furnaces and boilers, as well as for cooking, and would, he believed, soon become extensively used in the heating of dwellings. In order, however, that this should be the case, it would be necessary to introduce fireplaces in which the gas could burn completely free and in pure state. It could be used either in the form of radiation,—as, for instance, in open fireplaces,—or by direct contact with iron, as in cooking-stoves, &c. One great advantage in the former was that the rays thrown backwards could, by means of a reflector, also be utilised, which was impossible with coal. By gas grates, too, heat was more evenly distributed, whilst they would, at the same time, ventilate the room. The most pernicious manner of heating rooms was, the lecturer considered, that of hot air, it being most unhealthy to heat the air we breathe. The air ought to be cold, artificially-heated air being too dry to be wholesome,—a proof of which was furnished by Nature herself, the sun warming the earth solely by radiation. Herr Siemens had, he announced, constructed such a gas fireplace, in which heat was only distributed by radiation from the uncovered flame. No chimney was necessary, as no smoke was created, all that was required being simply a little pipe for the escape of any impurities. A room warmed in this manner he had found most comfortable. There was, however, the great drawback to the general adoption of this mode of heating, that it was at present more expensive than coal-firing, the grate in question consuming 500 litres of gas per hour, but this was counterbalanced by the saving of labour in tending, cleaning, &c. He considered it doubtful whether gas in such grates could be brought to the cheapness of coal and coke. Further, he expressed the belief that it would take a long time before people would adopt gas for heating their dwellings, though it was largely used for cooking, as the prejudice against it was great. He thought, however, that future generations would smile at the primitive and laborious manner in which their ancestors heated their dwellings.

Illustrations.

PLAN FOR THE PARIS EXHIBITION OF 1889.

We give this week the officially-adopted plan for the proposed Great Exhibition to be held in Paris in 1889, ostensibly in celebration of the centenary of the Republic. That there is no scale to the plan is no fault of ours; this is one of the things which they do not "manage better in France," and the official plan appears to have been published with no scale, though the scale will be apparent enough within certain limits, sufficiently so to enable the reader to appreciate the preposterous dimensions of M. Eiffel's proposed tower, the four piers or legs of which are seen on the centre line of the plan, with a couple of *cafés* interposed in the space between them. The symmetrical disposition of the ground will no doubt realise some fine effects, or would if they were not all likely to be interrupted or dwarfed by this precious tower.

As stated at the foot of the plan, the general scheme of the whole is due to M. Alphand, while special portions are put under the charge of three architects respectively:—M. Bouvard taking the construction of the palaces for the French and Foreign Sections, and also the Special Pavilion of the City of Paris; M. Dutert being charged with the machinery galleries; and M. Formigé with the Fine Arts Palace. The machinery galleries, it may be mentioned, will be 380 mètres in length, and are to be covered with a roof of 115 mètres span, on iron columns.

If this great undertaking really takes form and substance, and is brought to a fortunate completion, it will no doubt be an event of interest for the whole civilised world, a considerable portion of which will probably visit it.

THE CA D'ORO, VENICE.

We give an illustration of this remarkable and picturesque building, which will form the subject of the paper by Signor Boni at the Institute of Architects on Monday evening. The illustration is reproduced from a water-colour drawing by Mr. F. T. Baggallay.

Signor Boni will, perhaps, have some new light to throw upon the history of the building, about which doctors are divided a good deal. It dates from the fourteenth century, and is affirmed by some to have received its name from the amount of gilding originally on it; by others to be called after the d'Oro family. M. Chas. Yriarte, in his great work on Venice, suggests that the building was the design of a certain Filippo Calendario, a man who seems to have been originally a sailor, and afterwards a mixture of architect and politician, and was eventually hung in the piazetta of the Ducal Palace for a conspiracy against the famous oligarchy of Ten.

The design is a most characteristic example of Venetian architecture in its piquant contrasts of solid masses and open arcades, and the curiously Oriental aspect of some of the details.

It has been suggested that the Ca d'Oro shows evidence of manipulation of its lines with a view to correct optical illusion, as in the Parthenon. Considering the date of the building, the architectural influences under which it arose, and the great chance of settlement and torsion of line from the probable nature of its foundations, we should require very unmistakable evidence to induce us to believe this.

NEWARK CASTLE, RENFREWSHIRE.

On a low-lying piece of ground, close to the banks of the Clyde, stands the picturesque old castle of Newark, at one time beautifully situated, but now surrounded by the ship-building yards and workshops of the neighbouring town of Port Glasgow.

The edifice bears traces of having been built at two different periods; and is formed with a courtyard to the south, in the corner of which is the principal entrance, with moulded jamb and broken pediment, bearing the inscription, "The blissingis of God be heirin," anno 1597. Above is the group of panels and openings shown in the sketch, giving light to the main staircase. At the southern angle of the court rises the oldest portion of the building, dating probably from the fifteenth century, in the form of a lofty square tower, so characteristic of

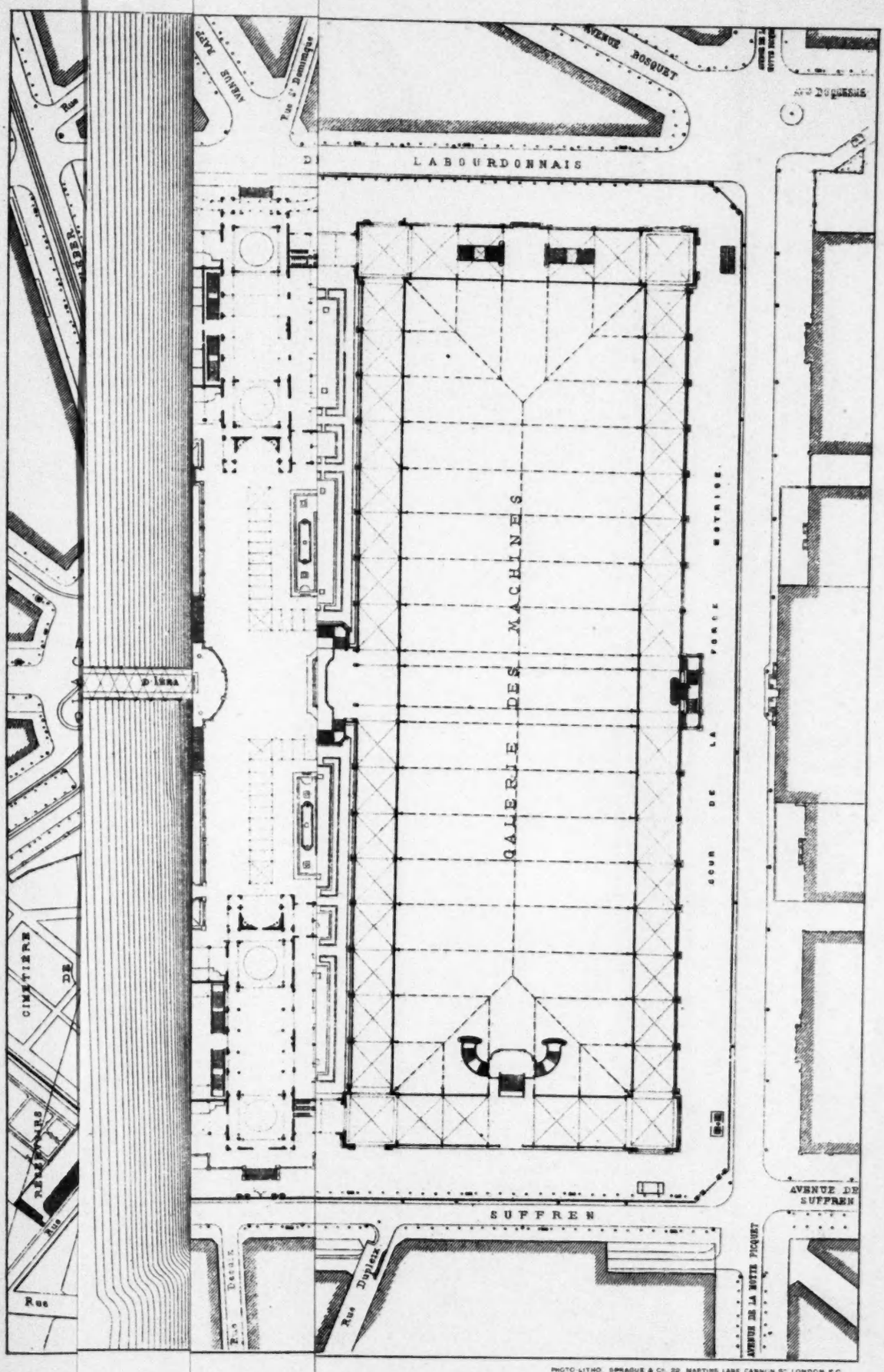


PHOTO-LITHO. SPRAGUE & Co. 22, MARTINS LANE, CANNON ST. LONDON, E.C.

PLAN FOR M. ALPHAND.

PLACE DU TROCADERO

Quai de Passy

Quai Debilly

Pont

Rue Le Nôtre

Rue Vineuse

Rue Pétrarque

Rue de Longchamp

Rue de Lubeck

Rue de Magdebourg

Rue Fresnel

AVENUE KLEBER

AVENUE DU TROCADERO

AVENUE D'IÉNA

DÉPÔT DES

CIMETIÈRE DE PASSY

B^d DELESSERT

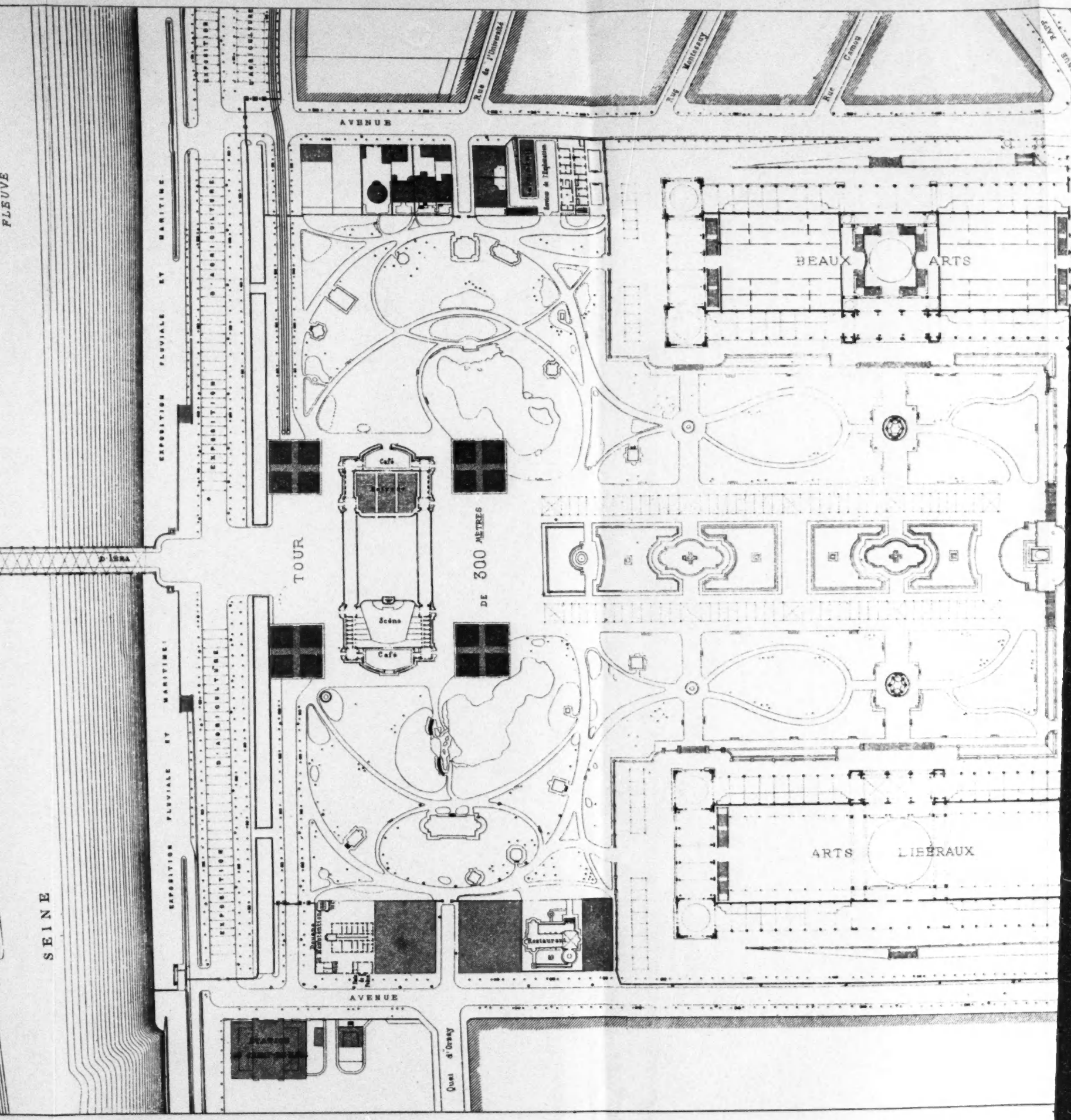
Charolais

Pompes

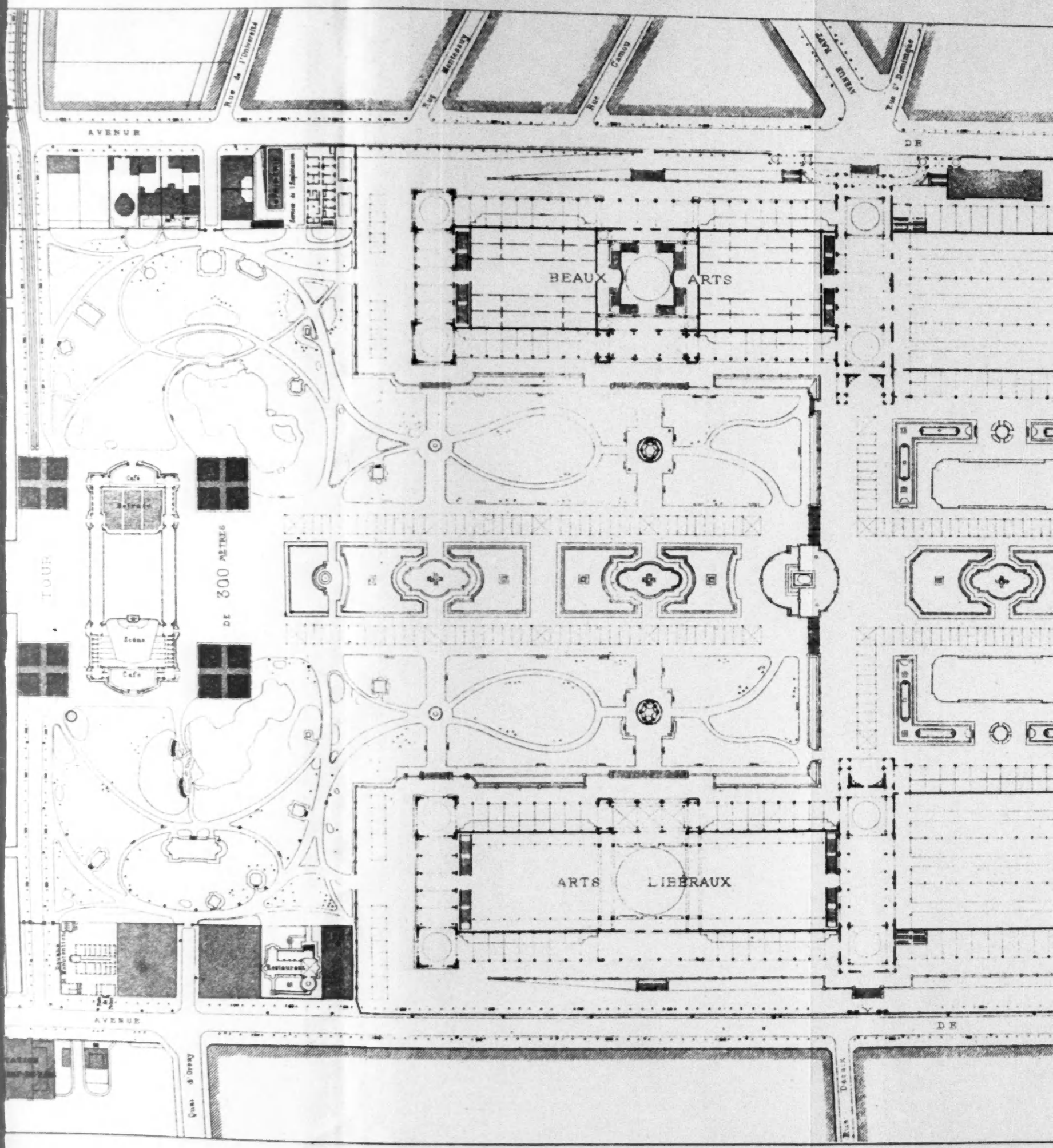
Hydrauliques

Exposition

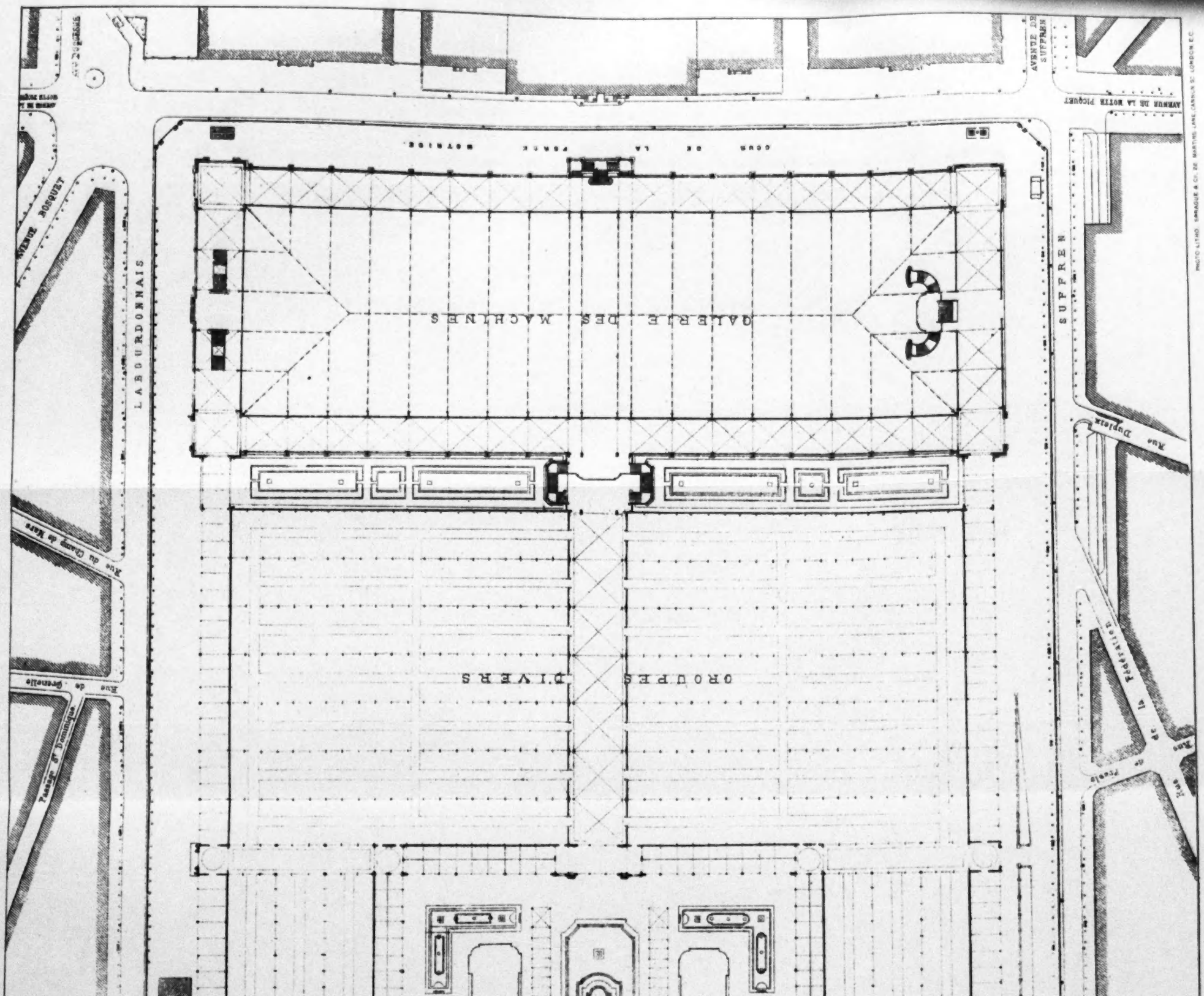
Horticulture



PLAN FOR THE PARIS EXHIBITION OF 1889.—Architects, MM. Bonvard, Dutert, and Formigé.—General Director of Works, M

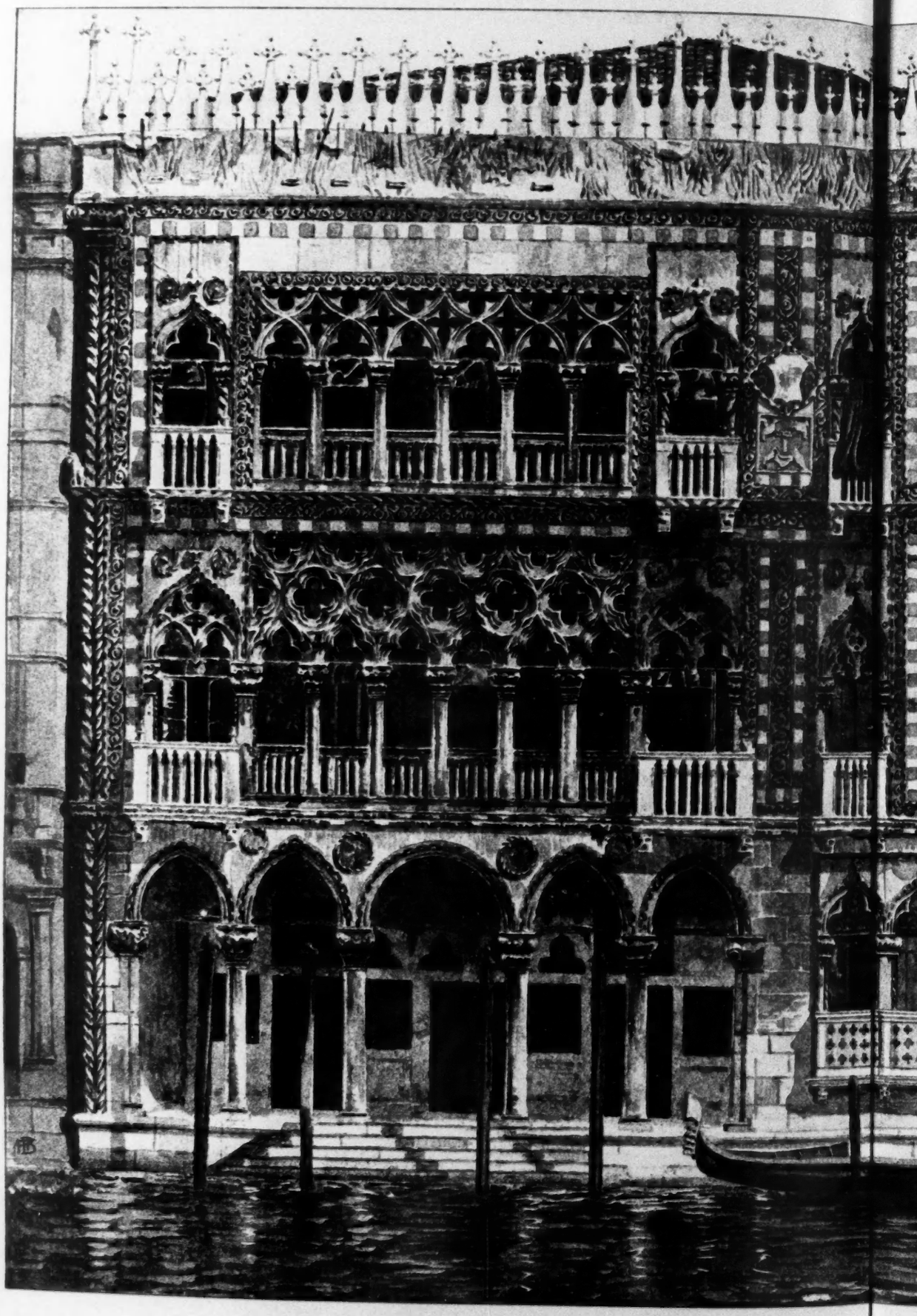


S EXHIBITION OF 1889.—ARCHITECTS, MM. BONVARD, DUTERT, AND FORMIGÉ.—GENERAL DIRECTOR OF WORKS, M. ALPHAND.

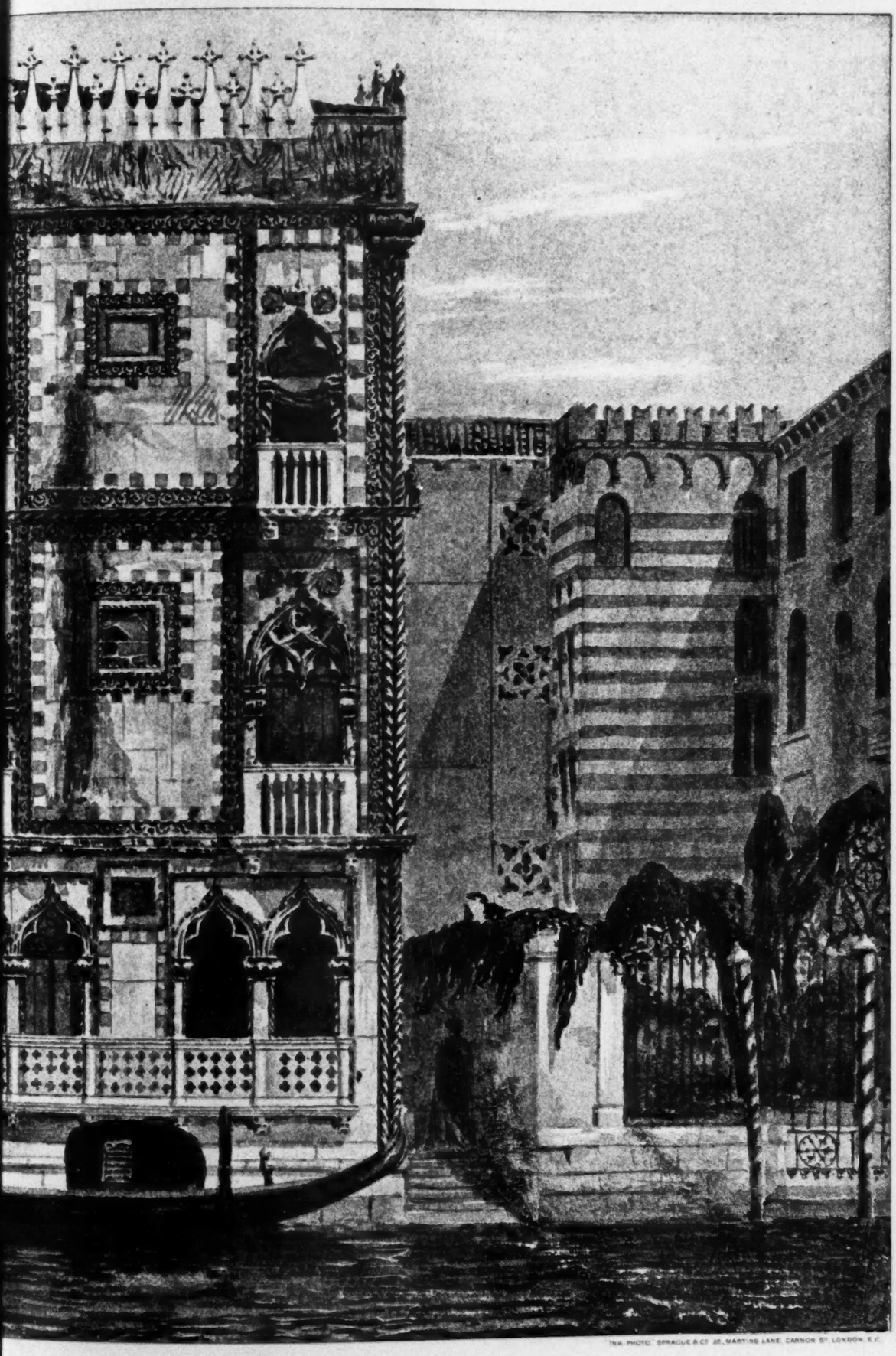

AVENUE DE SUFFREN
AVENUE DE LA MOTTE PICQUET
SUFFREN
LABOURDONNAIS
AVENUE ROSQUET
Rue du Champ de Mars
Rue de Grenelle
Passage St Dominique
Rue Duplaix
Rue de Fresnel
Rue de Fontenoy
GALERIE DES MACHINES
OROUPES
DIVERS
PHOTO LITHO. EMBAGUE & CO. 22, MARTINS LANE, CANNON ST. LONDON E.C.

INK-PHOTO. SPRAGUE & Co. LONDON.

INTERIOR OF ELLINGHAM CHURCH, HAMPSHIRE, AS RESTORED BY Mr. T. G. JACKSON, M.A.



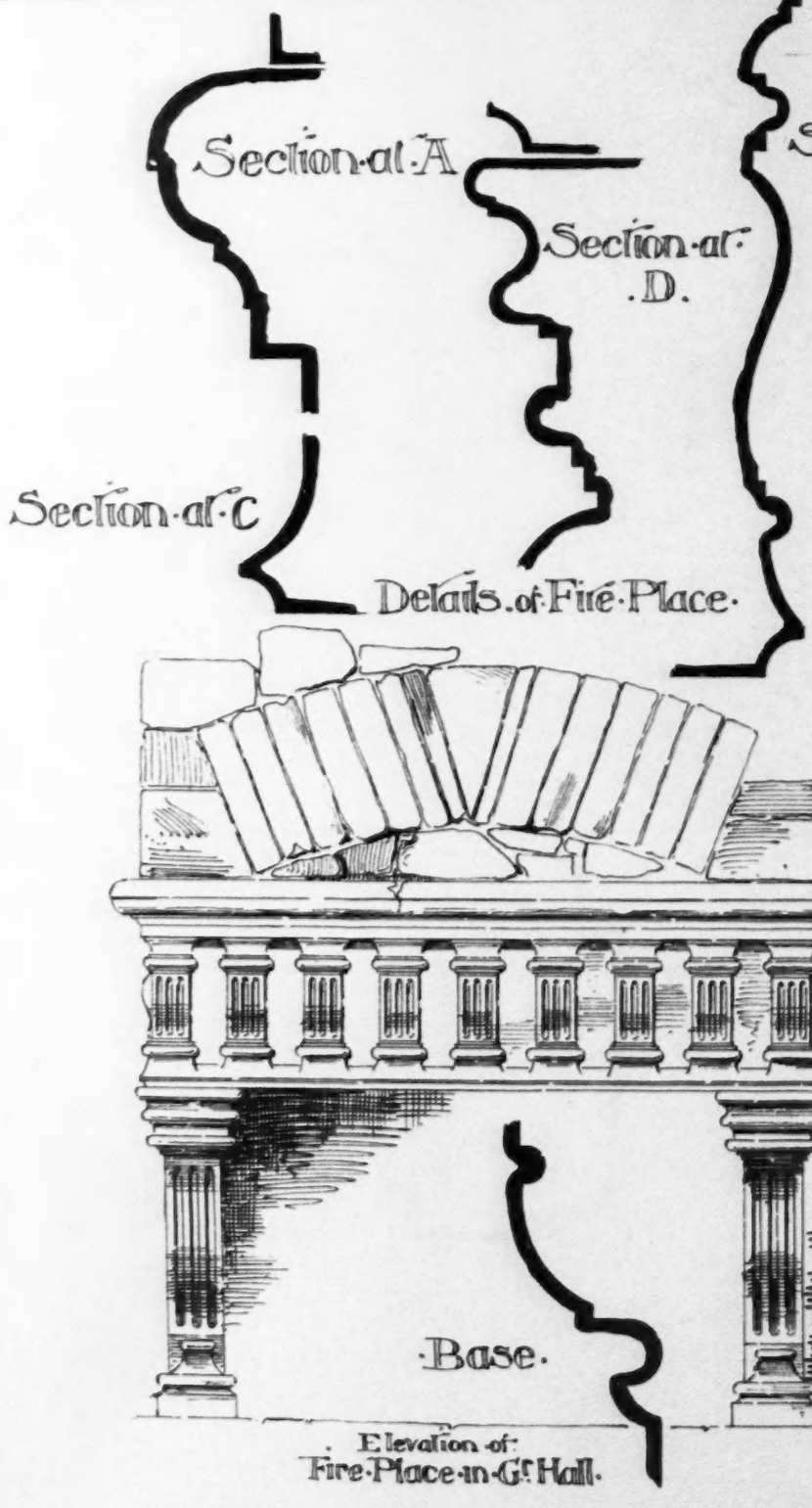
THE CA D'ORO, VENICE.—From a Drawing by

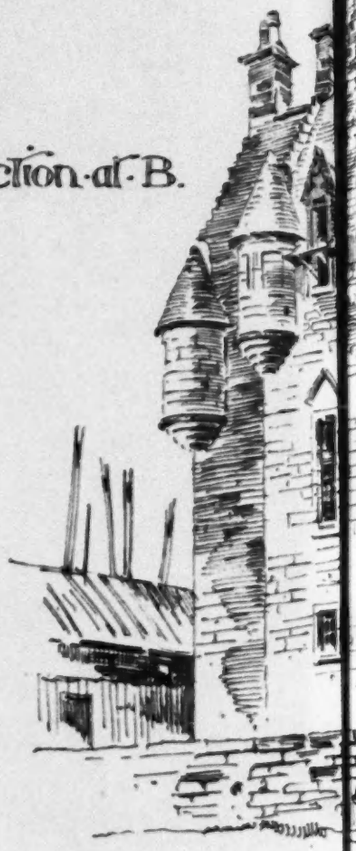


INK. PHOTO. SPRAGUE & Co. 20, MARTINS LANE, CANNON ST. LONDON, E.C.

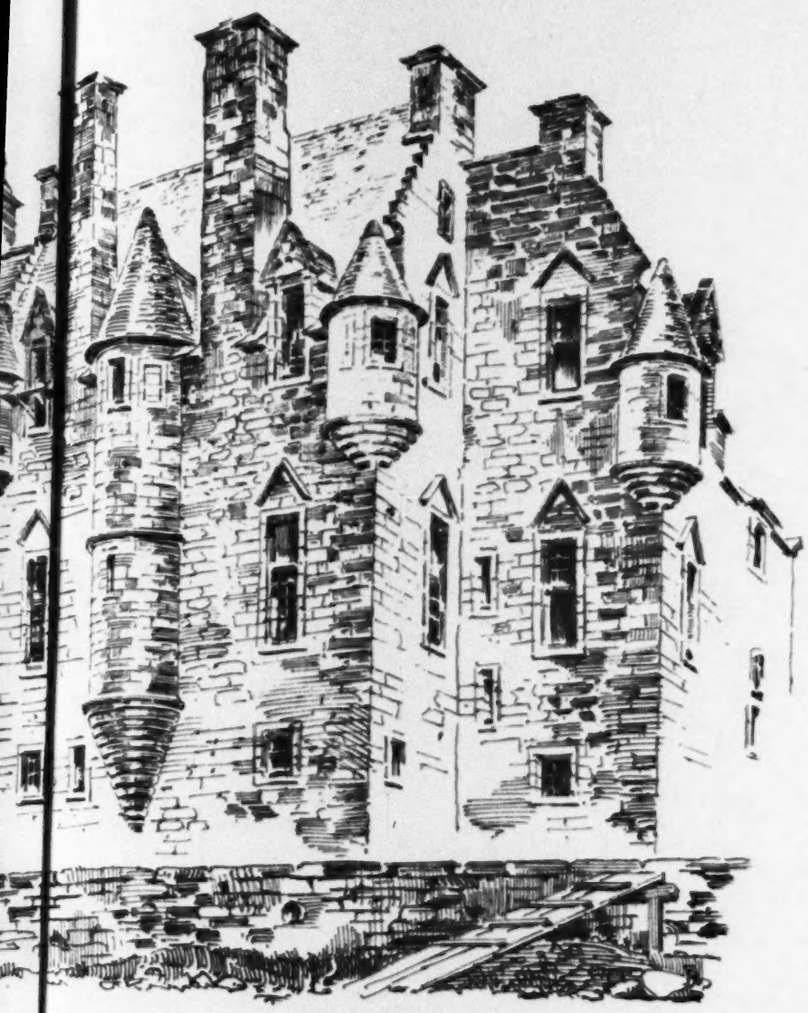
WING BY MR. F. T. BAGGALLAY, A.R.I.B.A.

NEWARK CASTLE
RENFREWSHIRE

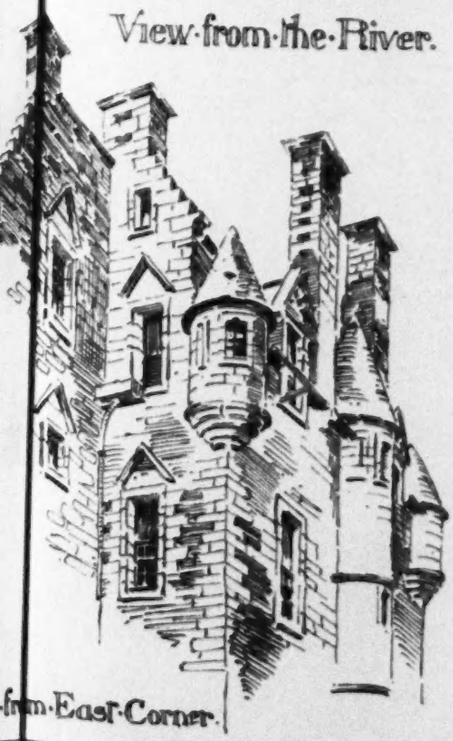




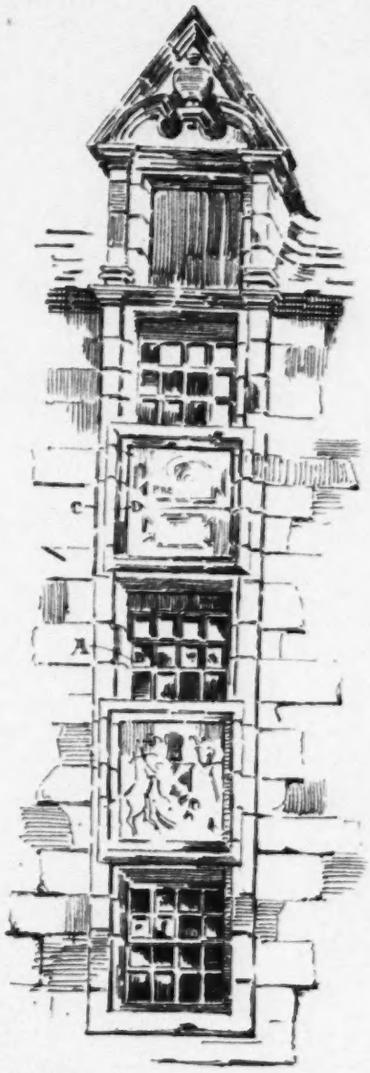
Sketch fr



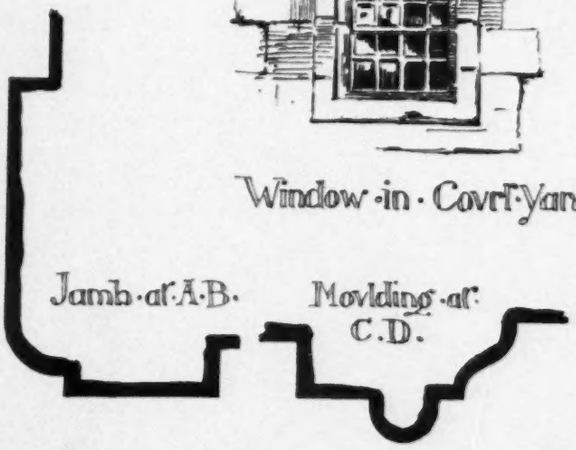
View from the River.

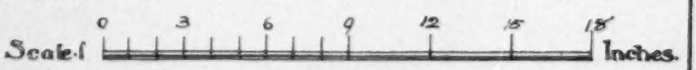


from East Corner.



Window in Court Yard.





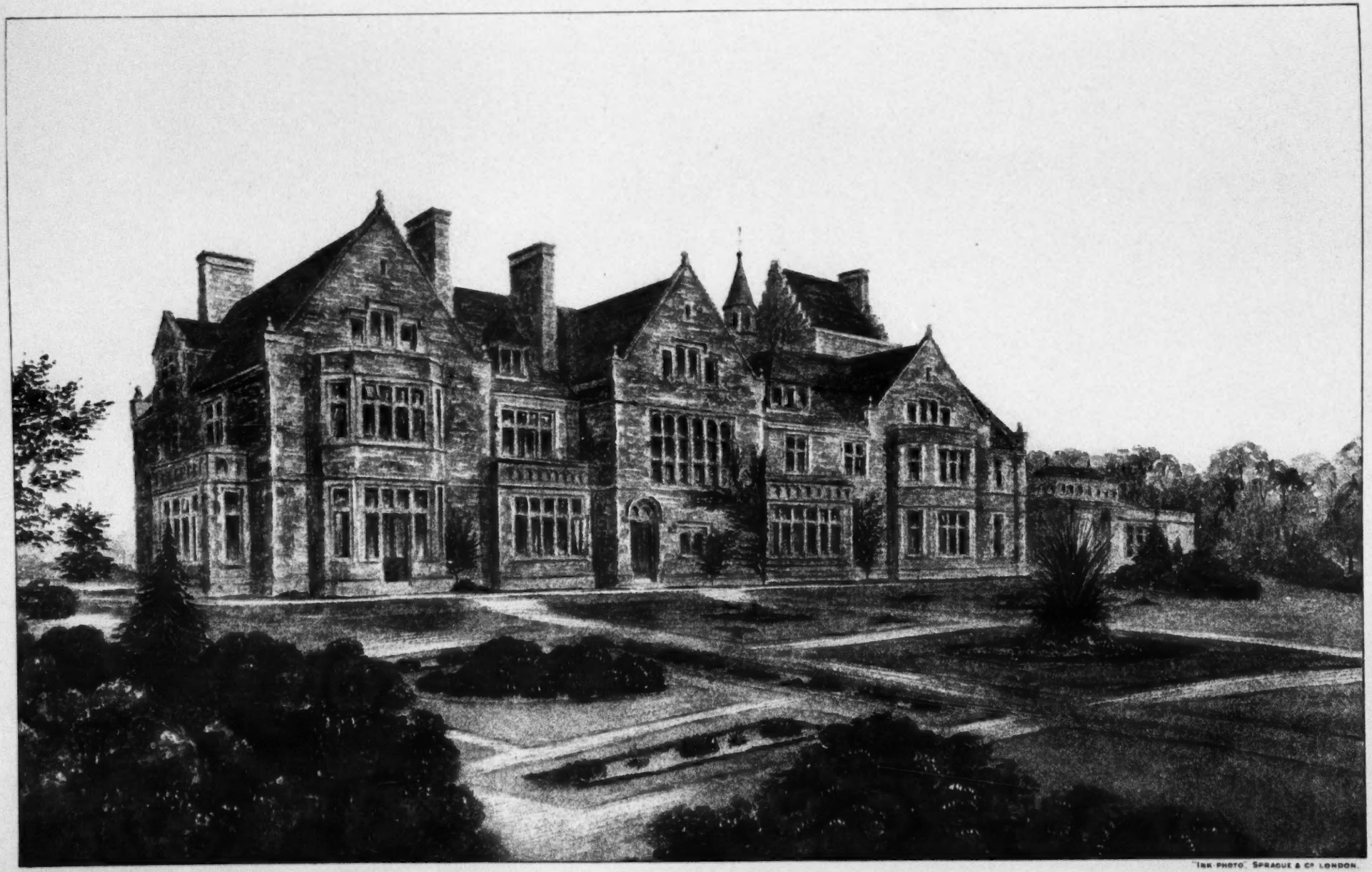
Scale for Details.

Monogram in Pediment

A·N·PRENTICE·
GLASGOW·Oct·1886.

GARDEN FRONT.

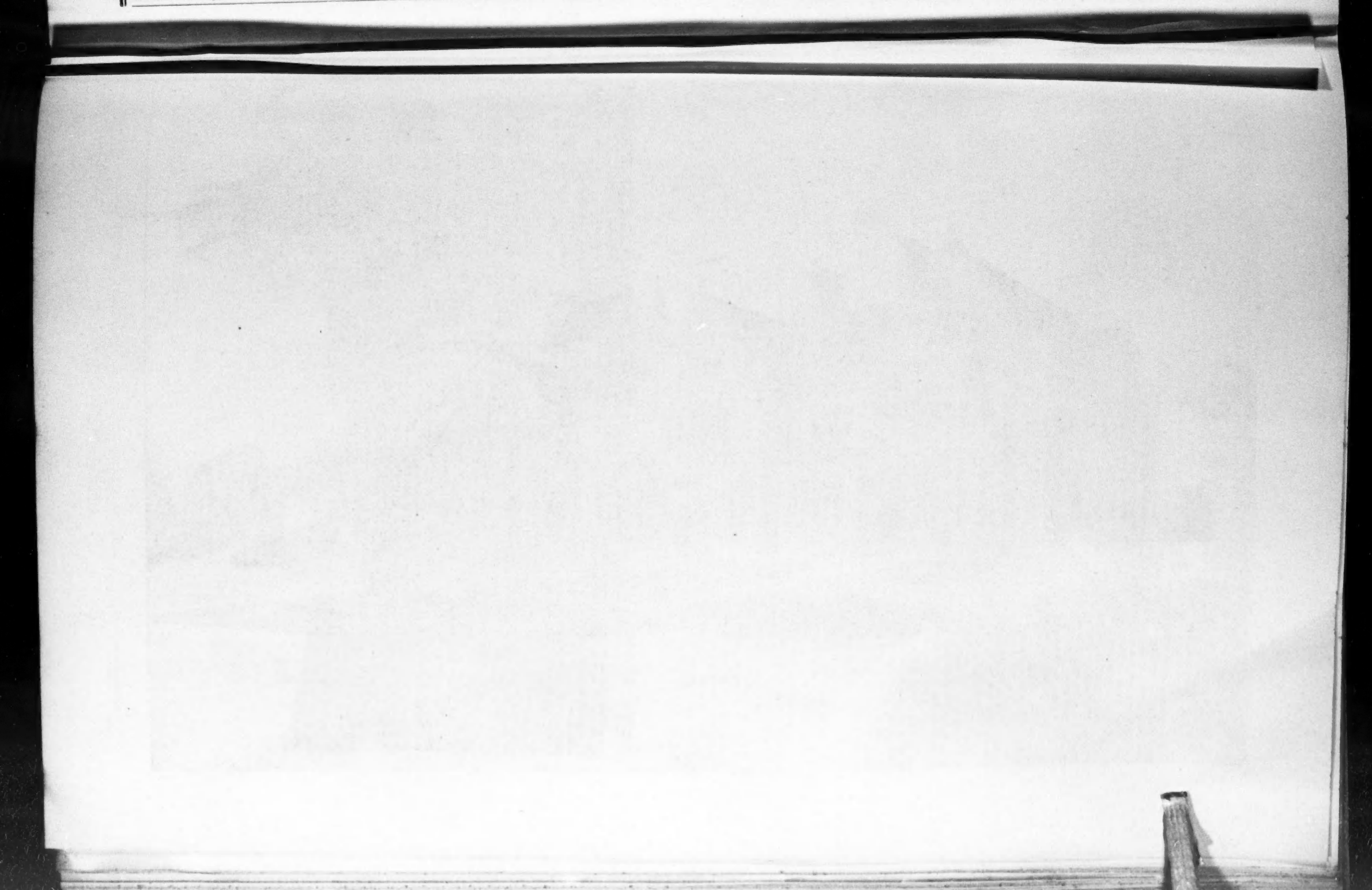
"PHOTO-LITHO" SPRAGUE & Co. 23, MARTIN LA. CANNON ST. LONDON, E.C.

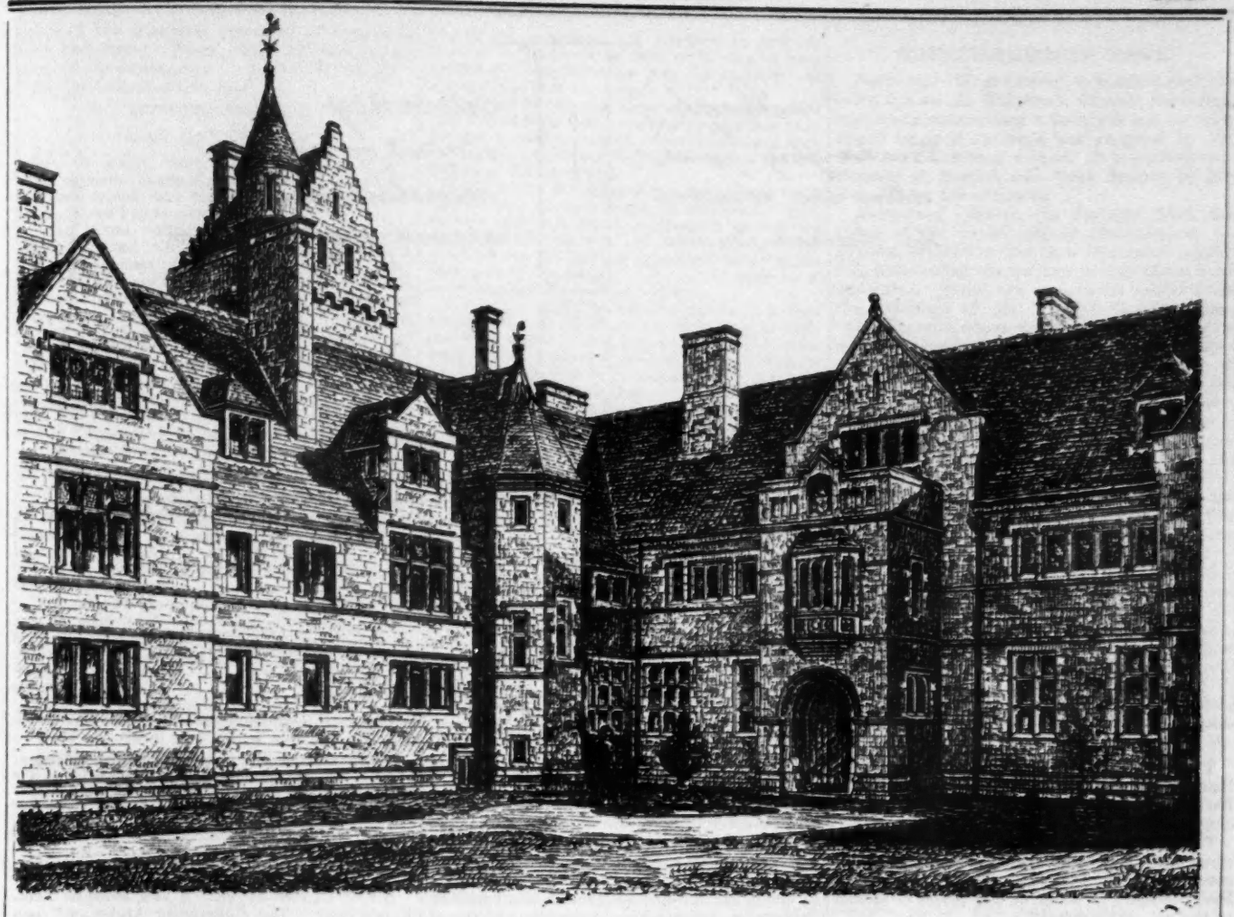


"INK PHOTO." SPRAGUE & Co LONDON.

HOUSE AT COOMBE, NEAR SHAFTESBURY.—Mr. E. Towry Whyte, M.A., Architect.

GARDEN FRONT.





House at Coombe, near Shaftesbury: Courtyard.—Mr. E. Towry White, M.A., Architect.

Scottish buildings of this period. Its windows appear to have been altered and enlarged when the rest of the castle was built. The north elevation presents a most striking view from the river, being similar in its style to Heriot's Hospital, Edinburgh, and the later portion of Linlithgow Palace. The windows on the ground-floor are formed with plain unmoulded architraves, and give light to the vaulted kitchen and offices. A little stair in the thickness of the wall, to the right, communicates with the hall above, which is a finely-proportioned apartment, with stone floor and oak roof, and is so planned that it is lighted by windows on all its four walls. The large stone fire-place shown in the illustration is placed on its north side. An inspection of its details will show that even at this late period its mouldings were not altogether wanting in Gothic feeling.

A circular stair turret, the chief feature on this elevation, gives access to the rooms above. On either side of it there are large moulded and canopied windows, which show that the Scotch were not so far behind at this time in matters of light as some Southern critics would have us think. Circular turrets rise from the angles of the building, crowned with conical roofs, which, together with the tall chimneys, give the building quite a French château appearance; indeed, this front is considered to be one of the finest of its kind in Scotland.

The ancient barony of Newark originally belonged to the Dennistouns, at one time an influential family in Renfrewshire. About the beginning of the fifteenth century it was transferred by marriage to a family of Maxwells, who retained it up to the beginning of the eighteenth century; since then it has changed hands several times, and is now the property of Lady Octavia Shaw Stewart. In one of the panels over the main entrance the armorial bearings of the Maxwell family are introduced.

A. N. PRENTICE.

HOUSE AT COMBE, NEAR SHAFTESBURY.

THIS house, now building for Mr. M. H. Beaufoy, is situated on high ground not far from Shaftesbury. One of the conditions was that all sitting-rooms should face the south-east or garden front. It is built of local green sandstone from a quarry on the property, with red Farleigh stone for windows, strings, &c. The roof is covered with red tiles; in the tower is a large water-tank in case of fire, as all the water for the house has to be pumped up by means of a turbine from a spring 170 ft. below the site, and distant about a quarter of a mile. The hall, which is two floors high, will be finished with oak panelling and oak staircase; the dining-room, smoking-room, and billiard-room will also be panelled in oak to a height of 4 ft. 6 in.; the billiard-room has an open timber roof with a lantern light. Mr. Dart, of Crediton, is the builder.

ELLINGHAM CHURCH.

THE Church of Ellingham, near Ringwood, was lately restored from Mr. T. G. Jackson's designs. It had for some years been in a ruinous state, the tiebeams of the roof having been cut away and the walls undermined by graves and vaults, and the greater part of the structure was actually in danger of falling. The dangerous walls have been rebuilt and the others underpinned; the church has been re-seated with oak pews, new roofed throughout, and warmed and drained, and a vestry and organ-chamber have been added on the north side of the chancel.

The church contains many points of interest. The rectory and chapel were attached to the Abbey of St. Sauveur le Vicomte in Normandy in the year 1163, and the actual building was apparently constructed at the end of the twelfth century or early in the thirteenth, to which date the east window, of three simple pointed lights under an arch, and some of the lancets in the north wall, may be referred. It was restored extensively in the fifteenth century, to which period the old roofs belonged, as well as the rood-screen and several of the windows.

The west front and the south porch, with its picturesque sun-dial, were rebuilt in the eighteenth century of red brick with stone quoins, and the west end bears the date 1747. These parts have not been disturbed, but retained as representing a chapter in the history of the building.

The chancel, which is large in proportion to the nave, was, no doubt, appropriated to the regular clergy, while the nave was occupied by the parishioners, and this may explain the absence of an open arch between the two, the space above the screen being filled with a solid partition of timber and plaster, on which still exist towards the nave some traces of the fifteenth-century painting. The rood occupied the centre, and on each side are figures of angels traced in red line among diapers and within a flowing border.

In 1671 this was concealed by a second partition 2 ft. further west, the space between the two being occupied by the rood-loft, and on this western partition are painted the royal arms and several Biblical texts in black letter, quoted from the Geneva version. These have considerable interest of their own, and are well preserved, and it was therefore thought desirable to retain them rather than remove them to expose the barely decipherable ruins of the fifteenth-century painting behind.

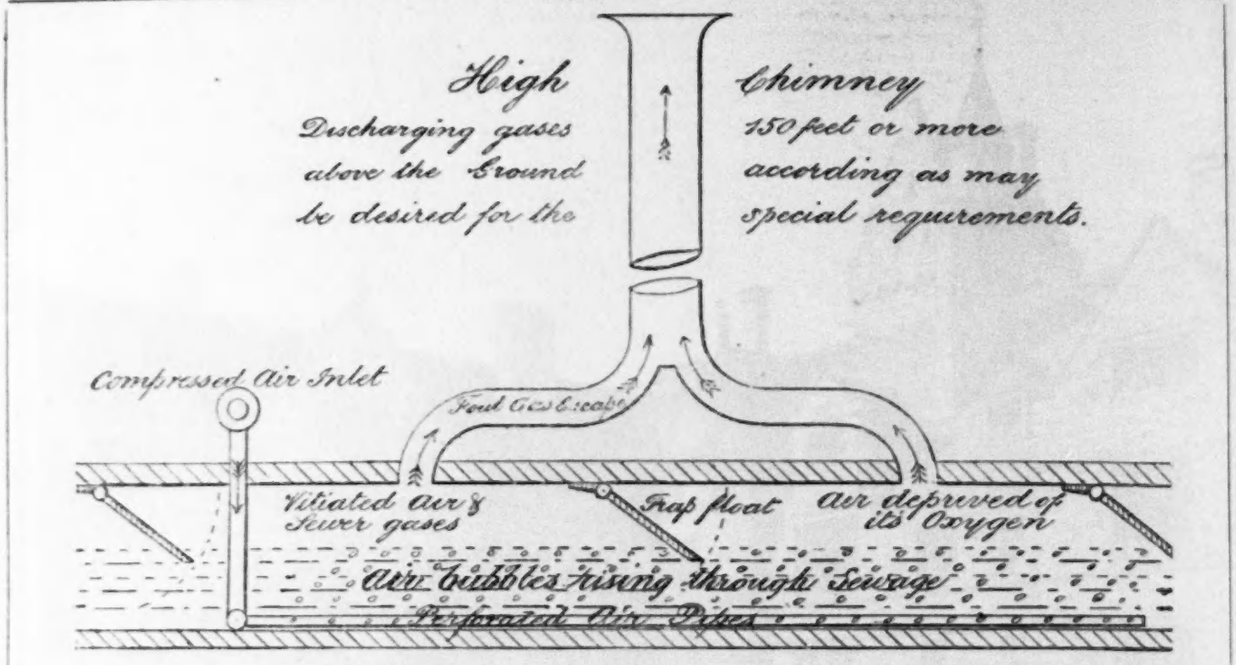
One picturesque feature in the church is the Moyle's Court pew, with panelling and tester of Italian walnut, which has been carefully preserved and may be seen in the accompanying illustration to the left of the chancel-screen.

Moyle's Court is an ancient house in the parish, which descended from the De Molis family to the Whites.

In the church is the handsome monument of Alice, heiress of the Whites, and wife of William Beconsawe, who died in 1632. Their son, Sir White Beconsawe, had a daughter Alice, who married John Lisle, M.P. for Winchester in 1640,—a zealous Parliament man, who took part in the condemnation of the king, and fled the country at the Restoration.

John Lisle was assassinated at Lausanne by a Royalist, and the fate which his widow, Dame Alice Lisle, met with at the hands of the butcher Jeffreys will be familiar to every one. She lies buried in Ellingham churchyard, close to the south porch, below an altar-tomb, with this epitaph:—

"HERE LIES DAME ALICIA LISLE
& HER DAUGHTER ANN HARSELL
WHO DYED THE 17 OF FEB: 170¾."
"ALICIA LISLE DYED THE
SECOND OF SEPT. 1685."



Section showing Proposed Application of James's Air-Process for Purifying Sewage.

The Moyle's Court property passed in later times to the Barings, and now belongs to the Earl of Normanton, at whose expense the church has been repaired and restored.

In the chancel floor have been reset some stone coffin lids, with crosses, which were discovered during the restoration. They may have belonged to some of the priors or monks of the cell at Ellingham.

AN AIR PROCESS FOR THE PURIFICATION OF SEWAGE.

This is rightly called a "purifying process." It purifies or does nothing. Most other processes do not aim so high as to purify sewage, its clarification being nearly all that is pretended to be done. The process, however, now under notice would, with a sufficient supply of air, deprive the sewage of all its noxious properties, and send them up a tall chimney as smoke is carried off.

When sewage is spread over land by way of irrigation, for the double purpose of utilising it and purifying it, it is introduced to the presence of air in the soil, in minute subdivisions as numerous as the pores of the soil itself, and by contact with the air in this minute state of subdivision the germination of the organisms of the sewage is promoted, so that, whether the purification of the sewage be regarded as due to living organisms, or, as formerly, to the mere presence of atmospheric air, the process may be regarded as the same, reversely applied, as the irrigation of land. The air is brought into contact with the sewage, instead of the sewage being taken to the air of the soil. There is this difference, however, that there may be in the soil pre-existing nitrifying organisms which may not be contained in the air blown through the sewage in the manner contemplated by the process. The description we give of the process and its application is that of the patentee, Mr. S. H. James, and is not the way in which the process could well be practically applied. The practical application, however, in no way concerns the principle. It is easy to blow air through water or sewage, and if that will effect its purification it is worth a trial. The points to be decided are, what degree of purification will a given quantity of air effect upon a certain bulk of sewage, and will any further supply of air effect further purification? The engineer knows what it will cost to supply a given quantity of air. Without trial of the effects of the new process, however, he has not sufficient data upon which to found an opinion of its practicability in a financial sense. It has before been proposed to oxidise sewage by bringing it into minute contact with air, but not in the way now proposed. The proposition we mean was to let the sewage fall through air, but it could not be applied on the larger scale of practical works.

In proposing to perform the operation of purification by forcing air through the sewage in the sewer itself, as shown by the diagram, the inventor probably overlooks the fact that there would not be time while the sewage is running to bring the air into sufficient contact with it. It must be performed in a reservoir, and one of the difficulties will be to find space enough for a shallow reservoir such as is desired. However, the difficulty is one which can be overcome if it is worth while, and the first thing to be done is to make a trial with the object of deciding the points we have named.

We subjoin the author's own description of his method:—

"It is well known that in all cases of lime precipitation a secondary action takes place after the discharge of the effluent into rivers. Fish cannot thrive even where they can exist, owing to the free oxygen in the river water being absorbed. It is also well known that lengthened exposure to the oxidising influence of air will alone deodorise sewage, but previous attempts required vast tracts of land, or the discharge of effluents in long, thin, and broad streams.

By my process, air is forced through the sewage matter, either in its passage along the sewer or in covered tanks, by means of perforated pipes or air distributors, placed at the bottom of the sewer or tanks near the outfall works; the part where this process is carried on consisting of one or more sections divided by suitable traps, floats, or syphons, designed to prevent gases escaping beyond the limits of the section operated upon, except by the openings at the top, which lead to tall escape-shafts or chimneys (as per sketch annexed).

Air being forced through the perforated pipes, agitates and intimately mixes with the liquid, oxidising and purifying it, thus rendering the sewage harmless before its discharge. The de-oxidised air and foul gas is ultimately carried away and discharged by the chimney into the upper region of the atmosphere. The present shafts or chimneys at most pumping stations are high enough to prevent smoke affecting the population, and probably would be found efficient for the dissipation of the vitiated gases evolved.

Where a clarified effluent is required, I prefer to use (after purification) a settling reservoir rather than employing any of the chemical precipitating processes. Without the aid of a settling reservoir, the effluent would be little altered in its dark appearance, but having been thoroughly oxidised and purified, it might be safely discharged into tidal rivers without detriment.

Fresh air is Nature's own method of purification, and in this process is utilised by being pumped through sewage, thereby securing perfect, instead of imperfect, contact, as in the case of cascades, &c. The foul gases are discharged by the high chimney at an elevation where they cause no nuisance. It is self-evident that the matter is purified by whatever goes up the chimney.

Organisms cannot prolong existence in a plentiful supply of fresh air; they ferment, live fast, and die, being practically burned out like impurities in iron when converted into steel by the Bessemer process.

By the time the sewage reaches the outfall all solids are broken up, and a few minutes' 'blow' drives off the foul gases, and very rapid decomposition sets in immediately, and resulting gases follow their predecessors. The chief work is done in the first section, and the second will complete it in less than a quarter of an hour, either in the sewer itself, or, better still, in covered shallow tanks. The solids and liquid, being purified, can be discharged into tidal rivers and carried by the tide to sea, thus avoiding subsequent dealing with the sludge; but where a clarified effluent is necessary, it is preferable to employ a settling reservoir to deposit the solids, avoiding all chemical precipitation, which, besides the expense, doubles the amount of solids and sets up subsequent decomposition in the rivers. The cost of the air-process is therefore the expense of maintaining blowing-engines."

ANCIENT LIGHTS.

Sir,— In your review [p. 759, *ante*] of Prof. Kerr's work, "The Consulting Architect," you take exception to the latter part of the statement made by him that "the mere obstruction of the light for one year is not enough to extinguish the easement unless notice of that intention has been first delivered." The words of the statute are, "No act or other matter shall be deemed to be an interruption within the meaning of the statute, unless the same shall have been or shall be submitted to or acquiesced in for one year after the party interrupted shall have had or shall have notice thereof, and of the person making or authorising the same to be made." Conflicting opinions are given as to the meaning of this, *e.g.*, the *Law Times*, February 4th, 1882, vol. 72, p. 236, says:—"The burden of specially proving the twofold notice will be held to lie upon one person erecting the obstruction." "Twofold," that is, (1) Notice of the obstruction; (2) Notice of the person making, &c., the same. This burden of proof is a most important matter. Roscoe in his Digest of the Law of Light observes that "in Seddon *v.* The Bank of Bolton (L.R., 19 Ch. D., 462), Lord Justice Fry (then Mr. Justice Fry), seems to suggest that there must be some kind of direct notice from the person authorising the interruption in order to satisfy the fourth section of the Prescription Act. But the learned judge gives no definition of the word 'notice,' and the case is but little guide. Upon consideration, the Act would seem to be satisfied so long as the owner of the dominant tenement becomes aware that some particular person, or some person authorised by him, is obstructing his light. Thus, if he is aware that A. is the owner in fee of the servient tenement in which an obstruction has been erected, this would seem to be sufficient 'notice of the person' making the same."

Whether the notice is to be actual or implied, a very important point arises, viz., that an interruption during the nineteenth year of the enjoyment of the easement cannot mature to be a sufficient interruption, and so the statutory period of enjoyment "for the full period of twenty years" before "the right thereto shall be deemed absolute" becomes practically reduced to nineteen years, because after nineteen years' enjoyment it is impossible to interrupt for a full year before the twenty years expires. The actual interruption for less than a year at the end of the twenty years is to be considered, in law, as no interruption at all: consequently at the end of the twenty years the

owner of the dominant tenement is deemed to have had twenty years' uninterrupted enjoyment of the easement. A. & C. HARSTON.

15, *Leadenhall-street*, Nov. 29.

CORK CATHEDRAL.

SIR,—A letter, over the initials "H. C. S.," which appeared in one of your recent issues [p. 753], has been copied into the *Cork Constitution* newspaper, where I have seen it.

I can assure "H. C. S." that the Dean and Chapter of Cork have at least as great an admiration for the genius of the late W. Burges, A.R.A., as he has, and are fully sensible of the sacred trust imposed upon them as guardians of the greatest ecclesiastical work of that gifted man. The present Bishop of Cork has, under the constitution of our Church, an absolute veto with regard to all changes in the structure or ornaments of the cathedral, and was chaplain to his father, the late Bishop, John Gregg, during whose episcopate the cathedral was built. The Bishop was a friend and fervent admirer of Mr. Burges, and would be the last to sanction any deviation from the late architect's plans, or the introduction of any addition that might disfigure the cathedral.

I beg to say that a western gallery was no part of Mr. Burges's original design. The existing gallery, with the huge organ upon it, was an afterthought, and hides from view more than three-fourths of the most beautiful window in the building, the western rose.

The organ is placed about 80 ft. from the choir, and the congregation sit in the intervening space, with the result that Divine service can only be performed with difficulty and with confusion,—a matter that even "H. C. S." will admit to be of some importance.

I may add that nothing has been decided upon; that we are all alive to the difficulties of obtaining a better and more satisfactory arrangement than the present one,—condemned as it is on all sides; and I beg to assure you and all admirers of Mr. Burges that his work is safe in our keeping, and shall only be touched, if touched at all, with reverent hands. S. O. MADDEN, D.D.,

Dean of Cork.

"NON-ACCEPTANCE OF LOWEST TENDER."

SIR,—Please allow one more ill-used contractor to bring his grievance before the public notice through the medium of your paper.

In your issue of the 6th inst. the Directors of the Metropolitan Railway Company advertised inviting tenders for connecting the drains of the Willesden Park Estate, Willesden Green, specifications to be seen, and quantities to be obtained at the office of Claude Robson, Esq., C.E., in Edgware-road.

I sent in a price for the above and with it a letter stating that I had been engaged with drainage works for many years, and at the same time gave the names of three engineers,—and could have given thirty if necessary,—for whom I have done works of a similar kind. I also furnished substantial sureties.

Now, sir, my estimate, although the lowest by 8*l.*, has not been accepted, which I think you, and most of your readers, will agree with me is anything but fair treatment, no question being raised, so far as I am aware, as to my competency to carry out and complete the contract in a satisfactory manner.

Nov. 30. JAMES YOUNG.

"PRIME COST, AND PAINTING IN TINTS."

SIR,—Allow me to answer the questions of your correspondent, "B. H." [p. 790], in your last week's issue.

Clause 1.—"All prices of articles mentioned are to be P.C. prices in London; add, therefore, profit, carriage, and fixing, and include same in contract."

"P.C." in this case means first cost after deducting trade discount, but not the discount for cash.

Clause 2.—"All work to be done in four oils in tints."

The proper interpretation of the above clause is that the architect shall have the right to select the colours of the paint. If those colours which are usually charged at a special rate were desired they should have been described.

If several tints are required on a piece of framing, as, for instance, a door, the clause of the specification should run thus:—"Knot, prime, stop, and paint three oils, the framings finished parti-colours, the whole of the woodwork in,"—(describing the rooms). This would mean one colour for panels and another colour for the remainder, as stiles and rails.

If mouldings or members of mouldings are to be "picked out," *i.e.*, painted in a different colour or colours, it should be stated.

The "P.C." question raises a different issue. The system of trade discount beyond the ordinary discount for cash is, I believe, almost exclusively confined to the building trades, and is a corrupt practice which architects and surveyors (through whom only the reform can come) should discourage wherever possible. But is it quite certain that firms who should advertise their intention to give no discount beyond that for cash, would receive such countenance and patronage from the profession as would secure them from loss?

It is well known that some of the houses which have altered their practice in that respect have been martyrs to their principles. Their customers, with one accord, transferred their patronage to the adherents of the old system.

If this were a new phase of business, surely some conscientious scruples would be awakened. How shall we describe a system under which trade books with prices fifty per cent. and more beyond cost are produced for the express purpose of deluding the employers of the builder? A book of patterns of paperhangings is a familiar instance.

It might, perhaps, be expedient to retain a large discount on such things as gas-barrel and fittings, and wood screws, in which cases very small fluctuations of value are best represented by a percentage, but these should not be concealed, and if perfectly well known could do no harm.

The result of the abolition of these discounts and a better knowledge of cost would be a more intelligent practice in both the preferring and adjusting of building claims, and ultimately a healthier system of profits.

At present ignorance often accords much larger profits than the builder should have, and as often errs in the other direction, and allows him none at all. JOHN LEANING.

CORSEHILL STONE.

SIR,—Kindly allow us to correct the statement in a letter published in your last week's issue [p. 790], respecting the stone we have used at the new dispensary at Battersea. The stone used *is red Corsehill*, and certainly *not* of an inferior quality, as stated in the letter referred to.

We may add that part of the stone used was actually supplied (indirectly) by Messrs. Trickett.

W. G. WYATT & Co.

EMBATTLED GABLES.

SIR,—Your remarks at p. 768, on the "St. Jans Gasthuis," pass the pyramidal fronts without mention. Of course it is very common in the Low Countries, but what is its origin?

I find that guide books indicate the theory of an introduction under Spanish influences; it may be so, but I rather incline to connect it with the crenellated walls and towers of the many Roman stations known thereabouts.

As a stranger I was much impressed with the effect as seen in Antwerp and Cologne, while in Rotterdam and Amsterdam it seems to have spread out into a broader form, that seems rather a development than the original style. The annexed cut* is very widely spread by advertisements, and I do associate it with the demolished walls and surviving *thurms* or towered gateways that still survive in the "town of monks and bones," that Coleridge would hardly recognise if he now revisited it.

November 27th, 1886. A. H.

ELHAM UNION WORKHOUSE.

SIR,—Some time ago advertisements appeared in the *Builder* for designs for rebuilding Elham Union Workhouse. The designs were to be in by the 9th of October. I have been looking through the *Builder* since to see if any decision had been arrived at concerning the competition.

Can you give me any information?

A COMPETITOR.

Madame Lucca's New Mansion.—During the last few weeks Madame Pauline Lucca has been engaged in superintending the finishing touches to her new mansion at Vienna, which has been furnished in the most sumptuous style. The ground floor is occupied by the dining saloon, ornamented and furnished in old German style, and a magnificent conservatory, illuminated by incandescent lamps of various colours. On the first floor are Madame Lucca's private rooms, and on the second floor the reception-rooms. In the principal of these, which is hung with real Gobelins tapestry, are two splendid paintings of the artiste as *Carmen* and in reception dress. The staircase, however, is the most magnificent part of the house. The handrails of the marble steps, covered with carpets, are of bronze, exquisitely moulded and ornamented with nude female figures bearing lamps. The large landings are partly occupied by bronze basins filled with choice exotics, the two walls at the bottom being hung with large paintings representing Music and Drama, in the style of Makart. What lends particular interest to the decoration of the interior is that they have all been executed from drawings by Madame Lucca.

* The cut, which is rather too rough to reproduce, represents a street front in Cologne, with a low three-stepped gable, having a very "battlemented" appearance. —ED.

CHURCH-BUILDING NEWS.

Battersea.—We are asked to mention that the oak pulpit in St. Stephen's Church, Battersea, which was consecrated a fortnight ago, as mentioned by us at the time, was supplied by Mr. Wm. Dart, Crediton, Devon. It is entirely constructed of English oak, from designs by Mr. Wm. White, the architect.

Hempstead (*Essex*).—In January, 1882, the tower of the parish church, dedicated to St. Andrew, erected in the later Decorated period, fell, demolishing the western portion of the nave and aisles. These are now to be rebuilt from the drawings of Mr. Samuel Knight. Concurrently with these works, the church is to be otherwise restored, upon the basis of the ancient design and structure, with the assistance of photographs taken before the disaster to the tower. Much of the original masonry (executed in Barnack stone) will be available in the restoration. The church has some interesting brasses and monumental slabs, and has historical interest as the burial-place, A.D. 1657, of the famous physician, William Harvey, discoverer of the circulation of the blood. The Harvey family have a chapel and vault here, though their residence has long ceased, and of the house only the moat can now be traced. Admiral Sir Eliab Harvey, G.C.B., who, as one of Nelson's captains, commanded the old *Téméraire* at Trafalgar, also lies in the vault, his being the last interment, in 1830. A first contract has been entered into for the restoration with Mr. William Saint, of Cambridge.

London.—After having been closed for some time past, the Church of St. Mary Woolnoth, Lombard-street, was re-opened on the 21st ult. Owing to the effluvia arising from the vaults beneath the church, and penetrating into the building itself, it was found to be imperatively necessary that some effectual steps should be taken to remedy the evil, and accordingly the assistance and experience of Mr. F. C. Penrose were called into requisition. Under his direction, the entire surface under the vault arching has been covered with a system of iron joists and concrete to receive a layer of asphalte, which has been laid in two thicknesses, viz., ½ in. Poloncean, and ½ in. Seyssel. Mr. Gathercole acted as clerk of works, Messrs. Holland & Hannen being the general contractors. Messrs. Pilkington & Co., of Fish-street-hill, were the contractors for the asphalting.——St. James's Church, Ratcliffe, and Christ Church, Watney-street, in the Commercial-road, have been lately decorated in colour, by Messrs. Campbell, Smith, & Campbell, from the designs of Mr. Frank T. Baggallay, architect. St. James's Church is a brick edifice of the period of the Early Gothic revival, and its bare interior was until lately distempered throughout with a light blue wash. For this has been substituted, on the walls beneath the galleries, a warm red with a dark painted dado, and a few lines of a darker colour to form a cornice. The upper part of the side and west walls has been distempered in a buff tone, and a few lines in light red, between which it is intended eventually to stencil a running ornament, have been drawn at the plate level and at the level of the springing of the window arches, which are very sharply pointed, and without detail of any sort. An attempt has been made to reduce the form of these arches to apparently better proportions by surrounding them with lines and conventional crockets and finials. The decoration has, however, been chiefly confined to the east end, where the arch opening to the shallow sanctuary has been treated like the window-arches, and with the same object. The forms of the arch and of the rose-window beyond it have also been repeated in a conventional manner in the decorations on the end wall on either side of them, the object being to get rid of the unpleasant effect of the arch standing alone in the middle of a bare wall space. The rose-window referred to has been filled with stained glass, and the wall beneath it and above the reredos painted with a conventional representation of the mustard-tree and the birds of the air lodging in its branches. The gallery fronts have been decorated with running ornament on a light ground, broken over each column by a panel containing a Christian emblem, and with a frieze of lettering in plain Lombardic characters. The total cost of the work, including distempering the ceiling and outlining it in panels, amounted to 260*l.* Christ Church,

Watney-street, is externally of somewhat similar character to the last, but with slightly greater architectural pretensions. The interior, however, with its round arches, double arcades, and raised apsidal sanctuary, has an impressive effect, and lends itself well to a scheme of coloured decoration, which seems, indeed, to have been commenced some time ago by painting the arches and columns in dark red and neutral green, which colours have been adhered to chiefly in the new work. The spandrels of the lower arcades have been decorated with ornament of Byzantine character, consisting of circles of colour containing Christian emblems and conventional scrollwork on a deep red ground. The walls under the galleries have been panelled out between the windows in red for the reception of figure subjects illustrative of the miracles and parables of the New Testament, and over and in the spandrels of the windows a frieze of bold scrollwork has been introduced. The arch opening to the sanctuary, and the wall above, and at the sides of it, have been decorated with ornament similar in character to that in the arcades. The cost of these works has been under 130*l*. The aisle windows have been filled with glass of simple character from Messrs. Campbell & Smith's own designs, and other decorative work is in contemplation when money can be obtained.

Weston-super-Mare. — The chancel of St. John's Church, Weston-super-Mare, has just been embellished by the erection of a new reredos, carried out by Mr. James Forsyth, from the drawings and under the superintendence of the architect, Mr. Edmund Buckle, of Bedford-row.

The Student's Column.

STONE QUARRIES.—XXIII.

SANDSTONES (*continued*).

SCOTGATE ASH QUARRIES.— These quarries are three-quarters of a mile from the North-Eastern Railway Station at Pateley Bridge (fourteen miles from Harrogate), with which they are connected by a line of railway. They are on the eastern side of the valley of the Nidd, at a height of 600 ft. above the level of the river of that name. The stone is worked on a very extensive scale, and we will describe the quarries in detail, as being good types of sandstone workings.

The stone may be represented as a bed of flagstone, lying between the Millstone Grit of the Brimham bed and the mountain (carboniferous) limestone of Greenhow. It occurs in beds of from 2 in. to 6 ft. in thickness, and the vertical joints, being numerous and open, contribute greatly to the easy working of the quarries. We have before us an account of the loading of a large landing 17 ft. 6 in. long and 7 ft. wide, whilst there have been several larger ones found *in situ* from 10 ft. wide to 22 ft. in length, and upwards. This will give a small idea of the sizes of stone raised from quarries of this class. The workings have been made along the line of out-crop of the rock, the ground opened up being about 600 yards in length. Tramways are laid down to all parts of the workings, so that material of any kind can be easily and quickly moved about. The lifting is done by powerful steam cranes, which travel on railways of 10 ft. gauge. These not only hoist the stone from the depths where it is quarried, but carry it to the places where it is faced, dressed, and prepared for use, and then lift it into the railway trucks. Smiths' and carpenters' shops are on the premises, as in other equally large quarries. Every accommodation is rendered to shelter the workmen from inclement weather, and in providing cabins in which they can cook and warm their midday meal and tea, as well as dry their clothes, &c.

But the most remarkable fact about the Scotgate Ash quarries, perhaps, is the method in which the stone is delivered on to the rails of the Nidd Valley Railway, one having the closest analogy to that employed in the Corrennie, Tillyfourie, and other large granite quarries in Aberdeenshire. A tramway of regular railway gauge has been made from the workings to the Pateley Bridge railway station, a distance of more than 1,000 yards, in the valley below. The gradient for half the distance at the upper end is very steep, rising at the rate of 1 ft. in 5 ft., and in some places at the rate of 1 ft. in 3 ft.; the lower part towards the town is much easier, being 1 ft. in 11 ft. The stone-carrying trucks belonging to the quarry-owners or the North-Eastern Railway Company ascend to the quarries empty and descend loaded, being drawn up and let down by means of two steel-wire ropes, each 1,000 yards in length and 3¼ in. in circumference, so contrived that the descent of the loaded truck causes the empty one to ascend. In the middle of the incline is a double line of rails, enabling the trucks to pass each other. The steel wire-ropes are wound upon a large drum, 16 ft. in diameter, enclosed in a house at the top of the incline. Close by is the brake-room, where the apparatus for regulating the speed of the descending trucks (which is somewhat like the steering-wheel of a ship) is placed. By means of this machinery, the brakesman can stop the descending truck in any part of its course, and there is also a kind of indicator showing on what part of the incline the trucks are when the day is foggy, or in the dark,—a most useful contrivance. In the same room there are four levers connected by wires with switches on the line of rails, so that if the rope should break or any other alarming accident take place, the trucks can be thrown off the line in almost any desired part of their journey, —precautions very necessary to prevent loss of life and damage to property below. The time occupied in the descent of a loaded truck is two minutes.

The geological phenomena presented in the quarries are numerous and suggestive, and are not altogether devoid of practical utility in their consideration. Violent dislocation is visible all along the edge of the quarries. In one place, within a space of 30 yards, the base line of one heavy bed varies four times, step faults throwing the strata down from 1 ft. to 5 ft., the blocks, as usual, being separated by vertical jointing.

Some of the beds exhibit ripple-marking (undulations) showing that these fissile sandstones formed in rather shallow water. The student must have noticed on any sandy seashore that the action of a gentle wind frequently caused little undulations in the sand under a foot or two of water. The ripple-marks form in a very characteristic and unmistakable manner, and are clearly recognisable in these old carboniferous sandstones. They are preserved by a gentle return tide bringing much sediment and covering the markings up; but we need hardly remark that out of the thousands of times these undulations are made, only once, perhaps, is that sediment brought and the conditions rendered favourable for their preservation. The return tides, in the other cases, shift the material over and over again. It is wonderful, too, that in the Scotgate Ash sandstones, the pittings made by a passing shower of rain or of a hail storm are observable. Those of our readers who may not have studied the subject will scarcely credit that such things have been preserved, yet the little dents made by the hail, accompanied by a driving wind, have made slanting impressions on the sands of these early times, in exactly the same manner as similar atmospheric agents do at the present day at Sandown, Shanklin, or Bournemouth. Of course, such phenomena would not be so easily interpreted if all their surroundings did not point in the same direction. Geologists frequently find the ripple-marks, and rain or hail spottings in these stones, accompanied by the impressions of the feet of birds or deinosaurs, and the muddier sediments show cracks made by the sun in drying the silt between tides, and high and low water marks. Worm-tracks are also exceedingly common, and such tracks are sometimes ended by a perpendicular hole,—the temporary home of the crawler. In fact, almost all the ordinary phenomena that may be observed on sandy or muddy beach to-day find representatives in even the strata of the Cambrian age. Such, then, are the teachings of a sandstone quarry, telling us of a sun, rain, hail, winds, and tides in remote periods, and speaking of an order of things very similar to that now obtaining. Such evidence should be ever before the eyes of those geologists who would make these agents more energetic and active in those times than now.

The prevailing colour of the stone is light brown, but there are also tints of yellow. Some of it is distinctly micaceous, which greatly assists in rendering it fissile, more especially in the lower beds.

The Scotgate Ash quarries produce a great variety of stone, but the six following are the most important:—

1. "Green Crag," a laminated dark greenish brown stone with minute specks, used principally for window-heads, cills, coping, &c.

2. "White Crag," a compact light brown colour, looking almost white when tooled, with similar specks. Mr. David Kirkaldy has tested this stone, three 6-in. cube samples of which gave the following "crushing-weights," in tons, per square foot,—734·6, 742·6, and 725·8, the mean being 734·3. All the samples tested were bedded between pieces of pine ¼ in. in thickness. It is used for landings, steps, paving, &c.

3. "Bottom bed," a very similar stone to No. 2, but rather more micaceous, used for the same purposes and for monuments.

4. "Block stone," a fine homogeneous brown sandstone, largely used for high-class masonry and monumental purposes.

5. "Rag," a laminated stone with dark thin lines of mica; it is suitable for bases and the like.

6. "Grit stone," as its name implies, is rather coarse, being made up of almost transparent grains of quartz; used mostly for dock-walls and cheap masonry.

Examples of the stone may be seen in the National Gallery, South Kensington Museum, and Gresham Buildings, in London; War Offices, barracks, station, and hotel at York; new barracks at Portsmouth, Newcastle, and Liverpool; and the principal buildings in Harrogate.

The great number of quarries in Yorkshire preclude the possibility of our mentioning them in detail. Many of the sandstones raised are very similar in character to those just described, and they are all found near the principal towns, the stone being generally called *Yorkshire Stone*. As a rule, the finer-grained kinds are used for ordinary building purposes, whilst the coarser varieties are more suitable for heavy engineering works. Good flags and landings are found near Bradford and Halifax, especially in the North and South Owram quarries, near the latter place.

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

15,464, Lavatories. E. J. Preston and E. W. De Russett.

The object of this invention is to increase the sightliness of fold-up lavatories. They are fitted with a movable flap or lid hinged across the back so as to fold up compactly when the basin is not in use. Openings for ventilation are left in the casing. On the top of the casing a shelf is provided, supported by brackets attached to the side of the casing, and in this shelf and brackets are carried the container for water supply, water-bottles, and glasses. A form suitable for use in railway carriages is also specified.

15,860, Joints and Stoneware Pipes. H. L. Doulton.

A collar is provided near one end of the pipe, and this is made to support a ring of gasket or other pliable material, against which, when the pipes are laid together, the socket of the next pipe abuts. In each socket there is a hole by which the cement to complete the joint is run into the cavity of the socket, and between the tipped end of the pipe within the socket and the gasket ring which closes the mouth of the socket. The joint is convenient for manufacture as well as for use, and there is sufficient flexibility in the joints to admit of the pipes being accurately placed in the positions required, whilst afterwards a complete and impermeable closing of the joint is effected.

394, Boilers. J. Stanley and J. Todd.

The front supporting the fire-bars is made tubular, with water inlet on each side. The fire-bars are supported at the front by the front feed-tube; the back ends of the fire-bars are joined to cross fire-bar box, above which is the boiler back. The front and back are connected by tubes of V-shaped section, which connect the front and the back. These tubes are covered by a saddle or water jacket, which is in connexion at top with front and back of boiler, so that a large and continuous water-heating surface is provided.

5,124, Ladders. W. A. Allen.

The rungs are of iron, and hinged to uprights which have an internal groove on each, into which the rungs fit when the ladder is closed up.

11,091, Bricks, Tiles, &c. J. C. Anderson.

The object is to produce articles of uniform density, and the material is filled into the moulds in a vacuum, and several other improvements are embodied in the production of bricks of different colours and of various styles of decoration.

11,294, Chimney Cowls. J. Whitehead.

The specification of this invention (wherein the patentee describes himself as a "practical Doctor of

Chimneys") sets forth an arrangement of revolving vanes which, when started by the wind, extract or withdraw the air in the tube or orifice of the chimney or ventilator.

11,397, Boring and Well Sinking. O. Terp.

The object is to obviate the difficulty and delay caused by altering the boring-tools according to the different strata passed through. Instead of changing the whole apparatus, only the tool itself is changed, and this is conveniently effected by the gear employed in working it. Special means are also explained for the use of steam in connexion with the boring and the lifting and manipulation of the boring-tools.

NEW APPLICATIONS FOR PATENTS.

Nov. 19.—15,017, M. Syer, Syphon Water Waste-preventers.—15,024, W. Sudbury and W. Spreadbury, Chimney Tops and Ventilators.—15,038, J. Gregson, Rain-water, Soil-pipes, &c.—15,069, S. Fisher, Wall or Ceiling Coverings.

Nov. 20.—15,092, W. Bagshawe, Tubular Iron Roofs.—15,113, J. Tucker, Lock.

Nov. 22.—15,184, G. Stierlin, Closing Fanlights, Windows, Ventilators, &c.—15,203, W. Kellogg, Sash Pulleys.—15,212, D. Grove, Water-closets.

Nov. 23.—15,227, E. Verity and Others, Sash and Casement Fastener.—15,233, C. Perrot, Tile Grates.—15,257, O. Lossing, Cut and Stained Glass for Decorative purposes.

Nov. 24.—15,312, G. Ewing, Flushing Apparatus for Water-closets, Urinals, &c.

Nov. 25.—15,347, L. Schlentheim, Ornamental Granite Marble Mosaic.—15,374, W. Buchan, Ventilators.—15,383, G. Rainsford, Gas Chandeliers or Gaseliers.

PROVISIONAL SPECIFICATIONS ACCEPTED.

13,364, R. Pardoe, Spindleless Revolving Chimney Cowl.—13,432, G. Shorland, Stoves and Fire Grates.—13,733, E. Pearson, Valve Arrangements and Container for Closets.—14,396, W. Blakeney, Combined Earth Closet and Urinal.—13,937, E. Taylor, Attaching Door-knobs, &c., to Spindles.—13,944, W. Macvitie and Others, Adjusting Door-knobs, &c., to Spindles.—13,964, J. Watson, Silica Brick.—13,984, W. Lindsay, Moulding Bricks or Blocks.—14,582, N. Pitt, Stoves.—14,584, E. Kent, Heating and Ventilating Houses.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

923, H. Buchan, Water-closets.—979, W. Leggott, Regulating Casements, Fanlights, Ventilators.—981, W. Leggott, Regulating Skylights.—1,744, T. Hare, Floors and Supports of Floors in Bridges and Buildings.—2,371, E. Houghton, Chimneys or Ventilating Shafts.—4,435, W. Rowe, Plough and Sash and Sash Fillister Plane.—6,182, R. Little, Sash Windows.—6,912, G. Butt, Wood Mouldings.—13,332, W. Browne and Others, Automatic Cut-off for Water-pipes.—14,619, S. and J. Fawcett, Pressing Bricks, Tiles, &c.—905, T. Young, Door Lock Spindle.—1,086, F. Wendling, Manufacture of Paint.—1,149, H. Hartung, Door Checks.—1,163, H. Vaughan, Drying-floor for Bricks, &c.—1,384, H. Conolly and Others, Man-hole Door for Drains, &c.—13,739, F. Hainsworth, Scroll Work.

RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

NOVEMBER 23.

By Wallen & Cluer.

Barking-road—Ground-rents of 42*l.* a year, reversion in 94 years £930

By Harry Foster & Co.

Fulham—Ground-rents of 161*l.* 10s., term 91 years 3,000

By Bean, Burnett, & Eldridge.

Camden Town—15 to 19, Rochester-square, 60 years, ground-rent 29*l.* 2,630

20 to 24, Rochester-square, 60 years, ground-rent 27*l.* 2,670

25 to 28, Rochester-square, 60 years, ground-rent 24*l.* 2,110

51 to 54, Hilldrop-crescent, 64 years, ground-rent 32*l.* 2,800

By Hornecastle & Son.

Poplar—26, 28, and 30, High-street, freehold 545

Blackwall—124, Brunswick street, copyhold 350

Old Ford-road—Nos. 509 and 511, term 17 years, ground-rent 12*l.* 120

Canning Town—32, 34, and 36, Clarkson-street, freehold 530

Haggerston—Ground-rents of 12*l.* 10s., reversion in 97 years 265

Plaistow—Ground-rents of 13*l.*, reversion in 97 years 275

1 to 7, Chad-street, freehold 790

Canning Town—7 to 19 odd Clarkson-street, freehold 1,225

By Debenham, Tewson, & Co.

Brenchley—The residence, Dungarvan House, and 3¼ acres, 63 years, ground-rent 25*l.* 2,500

Holloway—123, 125, and 127, Seven Sisters-road, and an improved ground-rent of 5*l.* 12s. 6d., long leasehold, ground-rent 15*l.* 2,750

Ground-rent of 7*l.* 10s. term 56 years 400

Bermondsey-street—Nos. 77 to 80, freehold, and a ground-rent of 7*l.*, reversion in 19 years 2,190

By Reynolds & Eason.

Lambeth—An improved rental of 691*l.*, term 31 years 8,500

Kentish Town—31, Jeffrey's-street, 33 years, ground-rent 5*l.* 5s. 305

Hackney—1 to 13 odd, North-street, 31 years, ground-rent 24*l.* 655

Walthamstow—1 and 2, Ashburton-villas, freehold .. 425

1 and 2, Brandon-villas, freehold 420

1 and 2, Richmond-villas, freehold 414

Lea Bridge-road—3, 4, and 5, Wheatsheaf-terrace, freehold £1,610

Hackney-road—13 and 14, Seabright-street, and 11, Hill-street, 30 years, ground-rent 6*l.* 350

9 and 10, Hill-street, 30 years, ground-rent, 6*l.* ... 390

22 and 24, Maidstone-street, 21 years, ground-rent 4*l.* 5s. 170

1 to 4, Emma-street, 17 years, ground-rent 14*l.* ... 230

29, 45, and 47, Great Cambridge-street, 2 years, ground-rent 15*l.* 20

NOVEMBER 24.

By R. Tidey & Son.

Kingsland—1, Ufton-road, 33 years, ground-rent 4*l.* 330

44 and 45, Lee-street, 33 years, ground-rent 6*l.* ... 420

By H. J. Bliss & Sons.

Finsbury—1 to 16, Royley-street 19 years, ground-rent 84*l.* 1,900

Hackney-road—46, 48, and 50, York-street, and a ground-rent of 2*l.*, freehold 1,200

23 and 23, Florefield-road, 70 years, ground-rent 8*l.* 250

Clapton, Lea Bridge—Crofton Cottage, 64 years, ground-rent 5*l.* 270

By A. Walton.

Barking-road—1 to 7 odd, Victoria-place, 67 years, ground-rent 12*l.* 350

South Norwood—1, Clifton-villas, 66 years, ground-rent 8*l.* 200

Clapham—79, Ferndale-road, 80 years, ground-rent 6*l.* 10s. 330

NOVEMBER 25.

By Prickett, Venables, & Co.

Finsbury Park—56, Blackstock-road, 85 years, ground-rent 6*l.* 535

Peckham Rye—The residence called Sunnyside, leasehold 360

By J. G. & A. Prevost.

Mile-end—8, Bermuda-street, 7 years, ground-rent 2*l.* 10s. 32

43 to 51 odd, Grafton-street, 63 years, ground-rent 22*l.* 10s. 2,705

By Brown, Roberts, & Radmall.

Wapping—25 and 26, Wapping-wall, freehold 260

By E. Stimson.

Peckham—15, Peckham-grove, freehold 590

Bermondsey—5, Grange-road, 836 years, no ground-rent 760

By C. & H. White.

Harrow—9, Elm Park-villas, freehold 690

West Norwood—The Bower and The Shrubbery, 39 years, ground-rent 35*l.* 490

Stockwell—27 and 27A, Stockwell Green, freehold ... 555

Kennington—14, 16, and 18, Cleaver-street, 28 years, ground-rent 13*l.* 680

3 to 13 odd, Harleyford-road, 19 years, ground-rent 13*l.* 980

Balham—The residences Sunnyside and Bedford Lodge, 35 years, ground-rent 18*l.* 1,050

By Wilkinson & Son.

Brighton—12, Marine-square, freehold 850

18, Bristol-road, freehold 700

NOVEMBER 26.

By Dale & Son.

Stepney Green—9 to 17 odd, Pole-street, 40 years, ground-rent 17*l.* 10s. 825

St. George's-in-the-East—13, Langdale-street, 15 years, ground-rent 4*l.* 90

72, Christian-street, 13 years, ground-rent 3*l.* ... 110

By Eastman Bros.

Lee, Kirkdale-villas—ground-rents of 14*l.* 17s. 6d., reversion in 96 years 345

Lenham-road, ground-rents of 67*l.* 10s., reversion in 96 years 1,460

Old-road, ground-rents of 22*l.* 2s., reversion in 96 years 520

By Tunley & Co.

Belgrave-square—19, Chapel-street, 23 years, ground-rent 21*l.* 1,400

Brompton—23, Ovington-gardens, 32 years, ground-rent 6*l.* 1,120

By R. Reid.

Hampstead-road—Nos. 53 to 63 odd, and 165 to 173 odd, Drummond-street, freehold, area 13,508 ft. 16,500

Holborn—Staple Inn, freehold, area 33,364 ft. 68,000

Bryanston-square—9, Upper Dorset-street, 19 years, ground-rent 6*l.* 320

Holloway—157 and 159, Seven Sisters-road, 75 years, ground-rent 7*l.* 400

MEETINGS.

SATURDAY, DECEMBER 4.

Association of Public Sanitary Inspectors.—Mr. W. Hearne on "House Drainage in London." 6 p.m.

MONDAY, DECEMBER 6.

Royal Institute of British Architects.—Signor Giacomo Boni on "The Ca' d'Oro and its Polychromatic Decorations,"—"a Contribution to the Study of Gothic Architecture in Venice." 8 p.m.

Surveyors' Institution.—(1) Mr. E. Ryde, on "The Tithe Question, with Suggestions for the Redemption of the Rent-charge"; (2) Discussion on the foregoing and on Mr. Willis Bund's paper. 8 p.m.

Society of Engineers.—Mr. G. B. Jerram on "River Pollution caused by Sewage Disposal." 7·30 p.m.

Society of Arts (Cantor Lectures).—Mr. Lewis F. Day on "The Principles and Practice of Ornamental Design." II. 8 p.m.

Leeds and Yorkshire Architectural Society.—Annual dinner.

Clerks of Works' Association.—Mr. R. Old, on "Brick-making, Ancient and Modern." 8 p.m.

Victoria Institute.—Mr. S. D. Peet on "Worship and Traditions of the Aborigines of North America." 8 p.m.

TUESDAY, DECEMBER 7.

Institution of Civil Engineers.—Dr. John Hopkinson, F.R.S., on "The Electric Lighthouses of Macquarie and of Tino." 8 p.m.

Parkes Museum.—Annual General Meeting. 5 p.m.

Society of Biblical Archæology.—Three papers. 8 p.m.

WEDNESDAY, DECEMBER 8.

Society of Arts.—Major-General C. E. Webber on "Glow Lamps, their Use and Manufacture." 8 p.m.

Institute of Auctioneers and Surveyors.—Adjourned General Meeting of Members. 4·30 p.m.

THURSDAY, DECEMBER 9.

Society of Telegraph Engineers and Electricians.—Annual General Meeting. 8 p.m.

Miscellanea.

"The Principles and Practice of Ornamental Design."—This is the subject of the first course of Cantor Lectures given this session in the Hall of the Society of Arts, the lecturer being Mr. Lewis F. Day, who, on Monday evening last, delivered his first discourse, which was devoted to a consideration of what he called "the anatomy of pattern." He showed how various patterns had obviously grown out of the mechanical necessities of primitive industrial processes, such as basket-making, weaving, &c., and how, in many manufactures of the present day, carried on with all the resources and complexity of machinery, the basis or groundwork of a pattern, structurally speaking, was essentially the same as in the kindred products of antiquity. The dissection of pattern design was spoken of at some length by the lecturer, and his remarks on this and other heads of his subject were very clearly illustrated by a series of wall-papers printed in black and white by Messrs. Jeffrey & Co. for the special purpose of showing the form of the ornament. Mr. Day concluded a long and interesting lecture by entering into special technical details as to the limitations and conditions under which the pattern-designer was compelled to work owing to the exigencies of manufacture, especially in regard to such processes as the printing of paper-hangings, calico-printing, &c., where the unit of pattern had almost to be invariably self-contained within a limited area and arranged so as to repeat. The philosophy of "drop-patterns" was also touched upon, it being clearly shown how disagreeable horizontal, diagonal, or stepped lines of patterns on papered walls could be prevented by the judicious use of a "drop-pattern" paper. The remaining lectures of the course will be delivered on Monday evenings, December 6, 13, and 20.

Swanage.—Mr. W. Harvey's report to the Local Government Board on the prevalence of enteric fever in the urban sanitary district of Swanage, in Dorset, contains the following particulars as to the sanitary arrangements of this "picturesque resort":—"Of the 500 houses in Swanage, 342 have privies, mostly situated in the Purbeck beds. These privies consist of pits of various dimensions, but averaging about 5 ft. in each of the three diameters. About 150 houses have what are designated earth-closets. These are, in reality, large tubs or buckets, so large, mostly, that they must of necessity be emptied long before they are filled, lest they become too heavy to be moved. Their contents, invariably very liquid from deficiency or absence of earth and ashes, are commonly thrown into the domestic ash-midden, or are disposed of in the ground of the garden. The ash-midden itself consists of three slabs of the local stone, placed against a convenient wall so as to enclose a rectangular space. Everything thrown therein is, as a matter of fact, simply cast on the ground. The ash-middens and privy-pits are not emptied or cleansed except at long intervals, and then only by the enterprise of occupiers; of scavenging by the sanitary authority there is none, except in so far that the main streets are duly swept and watered. As the privy-pits themselves are lined with small flat stones, simply placed in apposition, and (I have good authority for saying) generally without cement or mortar, the ground in their vicinity cannot fail to become polluted by matters exuding from them. In the town the soil covering the rocks is a hard, friable clay, that fissures easily in dry weather, and which is not, therefore, by any means impervious. Moreover, it is not (at any rate about the High-street) many feet in thickness; and not a few pits are in direct relation with the rocky substratum."

The Plumbers' Company entertained a large company of gentleman interested in the progress of sanitary science at dinner at the Albion, on Monday evening, the Master, Mr. Alderman Knill, in the chair. Mr. E. l'Anson (President of the Royal Institute of British Architects), Mr. T. Cartwright (President of the United Operative Plumbers' Association), and Mr. Ernest Hart responded to the toast of "Sanitary Science and its Allies." The progress of the movement for the registration of all competent plumbers was referred to by the Master and by other speakers, and as to this we may direct our readers to a list of registered plumbers, masters and men, which occupies one of our advertisement pages this week.

New Workhouse at Fordingbridge.—On the 22nd ult. the Guardians of the Fordingbridge Union attended under special notice to receive the keys of the new workhouse buildings, which during the past fifteen months have been erected on a very suitable and central site known as The Bartons, Fordingbridge. The buildings comprise the entrance block (on right hand), containing porter's rooms, receiving wards, bath-room and lavatory, cells for male and female vagrants, with day-room, labour-shed, fumigating-room, and conveniences. The entrance block (on left-hand), containing Board-room, with strong-room, lavatory, &c., waiting-room, shoemakers' room, rooms for aged married couples, and store for inmates' clothes. Beyond is the main block, providing accommodation for able-bodied, infirm, and very infirm inmates of both sexes, with bath-rooms, lavatories, stores, &c.; master's office, sitting-room, and bedrooms, large and well-proportioned dining-hall, with convenient kitchens and offices adjoining. In the able-bodied women's yard is the wash-house, laundry, and other offices, with large storage-tank for supply of rainwater; whilst in the able-bodied men's yard is a large and convenient labour-shed, with well and pumping apparatus. The infirm men and women's yards have covered seats. The children's block comprises boys' and girls' day-rooms, school and class rooms, with mistress's room and large airy dormitories, with convenient bath-rooms and lavatories. The drainage is so arranged that almost any length of drain may be inspected at a moment's notice by means of lamp and manholes placed in suitable positions, with lidded pipes (to allow for removal of a stoppage without breaking the pipes). Messrs. Bowes Scott & Read's patent automatic flushing-tanks are used for flushing purposes. Externally, the buildings are faced with the local red bricks, relieved only by moulded cornices, strings, labels, aprons, &c., of the same colour. The design is "Queen Anne" in character, plainly treated. The whole of the works have been carried out by Mr. John Greenwood, of Mansfield, Notts, from the designs and under the superintendence of the architect, Mr. Fred Bath, of Salisbury. Mr. Edwin Radford acted as clerk of works, and Mr. Robert Orchardson was the contractor's resident agent.

Sir John Soane's Museum.—According to the daily papers, the "secret chamber," or rather cupboard, in Sir John Soane's house in Lincoln's Inn-fields, was opened on Monday afternoon. The trustees present were Mr. Waterhouse, R.A., Mr. G. Godwin, F.R.S., Mr. C. S. Percival, F.R.S.A., Professor T. Hayter Lewis, F.S.A.; Professor Flower, F.R.S.; Dr. Freshfield, V.P.S.A.; Dr. Richardson, F.R.S.; and Alderman Sir R. W. Carden, together with the curator (Mr. Wild) and the solicitor to the trustees (Mr. Upton). On being opened, the cupboard was found to enclose a nest of sixteen drawers, to the outside of which was affixed a memorandum, of which the following is a copy, signed by the executrix of Sir John Soane's will, Sir Francis Chantrey, and two other trustees of the Museum, and the then curator:—

"December 6, 1837.

Pursuant to Dr. Lushington's opinion, this repository was opened by the executrix, in the presence of three trustees, to ascertain if there were money, notes, or valuables to require further probate duty, and after merely looking at the papers, &c., for that purpose they were all returned without further examination, retaining for use some articles of stationery."

It is stated that a careful examination is now being made of the contents of the drawers, which appear, however, at first sight, to contain nothing of public interest, but only documents relating to various buildings with which Sir John Soane was professionally connected, and to a well-known family dispute. The worthy Sir John seems to have been addicted to mystification.

St. Pancras Workhouse.—At the meeting of the St. Pancras Board of Guardians, held at the Vestry-hall last week, the Special Building Committee brought up a report recommending that instructions be given to Mr. H. H. Bridgman, architect, to prepare and submit, by the 1st of February next, plans and specification for additional and improved accommodation at the Workhouse, at an expenditure of 50,000*l.* or such other sum as the Guardians may ultimately decide upon. The recommendation was carried, and a contract embracing the terms of the architect's appointment was subsequently sealed by the Board.

The Cement and Brick Industries of Sweden.—Hitherto the cement and bricks used in the building trade of Sweden have mostly been imported from abroad, the former article principally from England, but there appears now every prospect of this being altered, two large works having recently been started in that country for the manufacture of cement and bricks. The former of these is the Visby Cement Company, having works on the Island of Gothland, in the Baltic, the formation of which consists entirely of chalk. It has been found that the raw material here is excellently adapted for the purpose in view, being entirely free from all foreign and injurious substances, a circumstance which permits of the adaptation of a method of manufacture cheaper than any other in use. Thus Portland cement is produced at Visby from slacked lime and dried marl, whereas at other works raw chalk and dried marl are used. In order to pulverise chalk extensive and powerful machinery is required, whilst the dust obtained has to be subjected to a slow and costly process of slacking before foreign substances are removed. Subsequently the mass has to be treated to an equally slow process of drying, which, as it has to be done in a natural way in the air, is greatly dependent on the weather. At Visby both the latter processes are avoided, whilst in the slacking process itself, in which two-thirds of already slacked lime are used, a saving of 25 per cent. of fuel is effected. On the other hand, the works are most favourably situated at the foot of a rich chalk cliff, and close to extensive layers of marl, whereby great saving in transport is also caused. As the island is in direct communication with Sweden, Russia, and Germany, the owners are confident of being able to compete with English cements in these countries. In Stockholm alone the yearly consumption of cement is estimated at nearly 20,000*l.* The brick works referred to have been established at Stockholm by Herr A. F. Nilsson, and the manufacture is, for the first time in Sweden, effected by steam. The bricks produced are stated to be superior to those made by hand, and to find a great demand.

The Loading of Chimneys and Walls. In the *Zeitschrift des Vereines deutscher Ingenieure*, Herr A. Hollenberg communicates some interesting information respecting the effect of loading chimneys in preventing, or at least diminishing, oscillations. A chimney only 56 ft. high, set in ordinary lime mortar without cement, when tested after completion for the degree of oscillation, displayed this property to such an extent that it was thought advisable to make its upper end more secure by placing a load on it. This was done by putting on the top an iron plate weighing 145 kilogrammes. This plate is stated to have proved a complete success. The chimney, which is rather exposed, has withstood since its erection (1870) many a storm, and shows neither horizontal nor vertical cracks. According to the *Praktische Maschinen-Constructeur*, similar results have been obtained by a millowner at Müllfort, near Rheydt, by placing rails on walls. He found it necessary to erect two additional stories over the first floor, without, however, interrupting work in the factory. But the constant vibration destroyed the brickwork as soon as it was erected. An attempt to hold the walls together by loading them with rails was so far successful that the two additional stories could be completed. The vibration of the walls was completely stopped by the load placed upon them.

Handicrafts in Russia.—According to the *Novoje Wremja*, handicrafts among the peasantry in the southern provinces of Russia have fallen to a very low depth. Several kinds of crafts have already died out, and fresh ones are not originated. It is stated that the causes are low economical conditions and the starting of manufactories, which latter attract the peasants. Besides this, the peasantry of the south display an increasing tendency to wander from place to place in search of work rather than to settle down.

Workmen's Dinner at Weybridge.—Last week the workmen engaged in building a residence, "Rosslyn Lodge," at St. George's Hills, for Miss Milligan, of Ryde, Isle of Wight, were, by that lady's kindness, entertained at dinner at the "Stag and Hounds." Among those present during the evening were Mr. T. Coulston, representing Miss Milligan; the architect, Mr. George A. Wright, of Wimbledon; Mr. Samuel Woods, contractor; Mr. Lake, clerk of works; and Mr. Smith, foreman.

Bombay Railway Terminus Buildings. The directors of the G. I. P. Railway Company have accorded their sanction to the execution of the statues which are to be the crowning features of the new terminal buildings at Boree Bunder. This splendid block of buildings has been constructed on such liberal principles in every respect that it would have been a pity to leave out of the design the beautiful figures which Mr. F. W. Stevens, the architect, considered would appropriately give completeness to his work. The principal of the statues, which are now being executed in London, is a colossal figure of her Majesty the Queen-Empress, and, as we suggest elsewhere, a fitting way of celebrating the Queen's Jubilee in Bombay, on the 20th of June next, would be for H.R.H. the Duke of Connaught to unveil this statue. The building will by that time be almost if not quite completed in every detail, and the unveiling of the statue would mark the importance of the occasion. Bombay has every reason to be proud of the ornate pile which Mr. Stevens's genius has called into being, and the city could not offer a more appropriate compliment to her Majesty, on the fiftieth anniversary of her reign, than associating it with the completion of this great work.—*Times of India.*

New Canals in France.—Since Germany decided upon the canal from Brunsbüttel to the Kieler Fjord, several projects for new canals in France have been submitted to the Government of that country. Of these, two are of particular importance. One is for a canal connecting the Bay of Biscay with the Mediterranean,—a plan formerly proposed from Bordeaux to Cette or Narbonne, *viâ* Toulouse, which a Government Commission has now under consideration. The length of this canal is estimated at 900 kilomètres. The second project, is, however, of a far more extensive nature, being for a canal from Marseilles through the Rhone Valley to Lyons, and thence, by the use of the waterways of the Upper Loire and the Seine, to Paris, and further north to Calais or Dunkerque. The length of this canal would be about 2,500 kilomètres. The engineers who advocate this scheme point out the excellent defence which it would offer against an eastern invasion, and the advantage it would give to France in opposition to England, besides which it would traverse the most fertile and important parts of the country.

New Buildings in Scandinavia.—A company has been formed in Christiania for the building of a grand new theatre on modern principles. At present there is only a very old one in existence. The cost of the building is estimated at about 25,000*l.*, but as yet no site has been chosen, and no invitations for designs issued. A Bill has just been presented to the Danish Parliament asking for funds for the rebuilding of the celebrated Palace of Christiansborg, which was burned to the ground a few years ago. The sum required is estimated at 275,000*l.* A Bill has also been presented for the erection of new Houses of Parliament, the cost of which is estimated at 110,000*l.*, including exterior decoration. The Gothenburg Private Bank has decided upon erecting a new building of very handsome appearance, the design accepted being those of Herr George Krügers. Three prizes were offered. The city of Bergen having decided upon the building of a new Bourse, designs for the same were invited, but the committee appointed to report upon them have come to the conclusion that none should be accepted. The two prizes offered were, however, awarded to the best drawings submitted. It is proposed to invite further designs.

The Hygiene of Warm Climates.—The following suggestions, made in a paper read before the Congress at Nancy, with regard to the salubrity of houses and clothing in hot countries, are of interest. In houses, whether constructed of stone, brick, straw, or wood, great attention ought to be paid to the way in which they are protected. They ought to be two stories high, as a more even temperature could be kept on the first floor, and malarial diseases are less to be feared on an upper story. Windows should be glazed, as a protection against malarial and intestinal complaints, and as a means of maintaining a lower temperature. All domestic offices should be at some distance from the house. This is a wise precaution against fire and bad smells. It is desirable to wear flannel in hot climates.—*Sanitary Record.*

The Parkes Museum.—The annual general meeting of the members of the Parkes Museum will be held in the Museum, 74A, Margaret-street, Regent-street, on Tuesday next, December 7th, at five o'clock p.m., for the transaction of the following business, viz.:—1. To receive report from Council; (2) to elect vice presidents; (3) to elect members of Council.

The Public Health Act, 1875.—Mr. William Spinks, Surveyor to the Dukinfield Local Board, read a paper on this Act at the Warrington meeting of the Association of Municipal Engineers on Saturday last, with special reference to the 150th Section and its proposed amendment. Mr. Spinks writes:—"It is very desirable indeed now to get all the information we can as to the working of the 150th Section, and I am collecting, with a view to proper compilation, the results of the practice of several Borough Surveyors, who have not been able either to attend the meetings of the Association nor had time to take part in the discussion." We will return to the subject next week. In the meantime, Mr. Spinks will be glad to hear from gentlemen who have any experience on the matter.

Lightning Conductors of Nickel.—Some experiments are now in progress at Dresden, by using nickel instead of iron for the points of lightning conductors. As this metal does not corrode in wet weather, it is believed to be more suitable than iron, corroded or oxidised conductors being less effective when struck by lightning.

Building in Philadelphia.—It is estimated that about 9,100 buildings, of which 6,835 are stated to be private dwellings, have been erected in Philadelphia in the present year. This is 1,140 more than were built in 1885, which latter year had beaten the record of any previous year by over 1,500 buildings. During the past six years 24,206 private dwellings have been constructed in Philadelphia, or an average of 6,000 a year. It is calculated that the additions and alterations during those years, and the many shops or stores with dwellings attached, which must be considered in this connexion, bring the aggregate of new houses added to the community up to fully 30,000. The number of unoccupied houses in Philadelphia is stated to be inconsiderable.

"The Architect and Contractor's Compendium, Specialist's Directory and Diary," for 1887, edited by Mr. John E. Sears, A.R.I.B.A., is in preparation, and will shortly be issued. In the words of the prospectus, "its design is to combine in a convenient form an office diary, copies of Building Acts, By-laws, legal and general information, tables, and memoranda of every kind relating to the theory and practice of architecture, together with carefully classified advertisements of specialities, manufactures, and requirements in the several branches of the building trades." It is to be illustrated, and from specimen-pages which have been forwarded to us it is likely to be found a very handy work of reference for office or workshop, provided pains are taken to ensure accuracy. It will be published by Messrs. James Sears & Sons, Crane-court, Fleet-street, E.C.

PRICES CURRENT OF MATERIALS.

TIMBER.	£. s. d.	£. s. d.
Greenheart, B.G. ....ton	6 10 0	7 0 0
Teak, E.I. ....load	9 0 0	14 0 0
Sequoia, U.S. ....foot cube	0 2 4	0 2 7
Ash, Canada ....load	3 0 0	4 10 0
Birch ,, ...	2 5 0	3 10 0
Elm ,, ...	3 10 0	4 10 0
Fir, Dantsic, &c.	1 10 0	4 0 0
Oak ,, ...	2 10 0	4 10 0
Canada	3 0 0	6 0 0
Pine, Canada red	2 0 0	3 10 0
,, yellow	3 5 0	4 0 0
Lath, Dantsic ....fathom	3 0 0	5 0 0
St. Petersburg	4 0 0	5 10 0
Wainscot, Riga ....log	2 15 0	4 0 0
,, Odessa, crown	3 5 0	3 7 6
Deals, Finland, 2nd and 1st...std.100	7 0 0	8 0 0
,, 4th and 3rd	6 0 0	6 10 0
Riga	5 10 0	7 0 0
St. Petersburg, 1st yellow	8 10 0	14 0 0
,, 2nd ,, ...	7 0 0	8 0 0
,, white	7 0 0	10 0 0
Swedish	6 0 0	15 0 0
White Sea	7 0 0	17 10 0
Canada, Pine, 1st	17 0 0	29 0 0
,, ,, 2nd	11 0 0	17 0 0
,, ,, 3rd, &c.	6 0 0	8 0 0
,, Spruce, 1st	8 0 0	11 0 0
,, ,, 3rd and 2nd	5 0 0	7 10 0
New Brunswick, &c.	5 0 0	7 0 0
Battens, all kinds	4 0 0	12 0 0
Flooring Boards, sq. 1 in., Prepared, first	0 9 0	0 13 0
Second	0 7 6	0 8 6
Other qualities	0 5 0	0 7 0

TIMBER (*continued*).	£. s. d.	£. s. d.
Cedar, Cuba ....foot	0 0 3	0 0 3½
Honduras, &c.	0 0 2½	0 0 3½
Australian	0 0 2	0 0 3
Mahogany, Cuba	0 0 4	0 0 7
St. Domingo, cargo average	0 0 4	0 0 7
Mexican ,, ...	0 0 3½	0 0 4½
Tobasco ,, ...	0 0 4	0 0 6½
Honduras ,, ...	0 0 4	0 0 6½
Maple, Bird's-eye	0 0 6	0 0 8
Rose, Rio ....ton	7 0 0	10 0 0
Bahia	6 0 0	10 0 0
Box, Turkey	5 0 0	17 0 0
Satin, St. Domingo ....foot	0 0 6	0 0 10
Porto Rico	0 0 7	0 1 0
Walnut, Italian	0 0 4	0 0 5

METALS.		
IRON—Bar, Welsh, in London...ton	4 7 6	4 15 0
,, ,, in Wales	4 2 6	4 7 6
,, Staffordshire, London	5 10 0	6 0 0
Sheets, single, in London	6 15 0	8 10 0
Hoops ,, ...	6 0 0	7 0 0
Nail-rods ,, ...	5 15 0	6 10 0
COPPER—		
British, cake and ingot ....ton	43 10 0	44 10 0
Best selected	45 0 0	45 10 0
Sheets, strong	51 10 0	52 0 0
,, India	49 10 0	0 0 0
Chili, bars	39 14 0	40 0 0

METALS (*continued*).	£. s. d.	£. s. d.
YELLOW METAL ....lb.	0 0 4	0 0 4½
LEAD—		
Pig, Spanish ....ton	12 16 3	12 17 6
English, common brands	13 2 6	0 0 0
Sheet, English	13 18 9	14 2 6
SPELTER—		
Silesian, special ....ton	14 10 0	14 12 6
Ordinary brands	14 7 6	14 10 0
TIN—		
Straits .... ton	102 0 0	0 0 0
Australian	102 10 0	0 0 0
English ingots	105 10 0	0 0 0

OILS.		
Linseed ....ton	20 5 0	20 10 0
Cocoanut, Cochin	37 10 0	38 0 0
Ceylon	26 15 0	0 0 0
Palm, Lagos	25 0 0	0 0 0
Rapeseed, English pale	22 0 0	0 0 0
,, brown	20 12 6	0 0 0
Cottonseed, refined	18 10 0	20 0 0
Tallow and Oleine	25 0 0	45 0 0
Lubricating, U.S.	6 0 0	10 0 0
,, refined	8 0 0	13 0 0
TURPENTINE—		
American, in casks ....cwt.	1 8 0	0 0 0
TAR—		
Stockholm ....barrel	0 15 0	0 15 6
Archangel	0 10 6	0 11 0

COMPETITIONS, CONTRACTS, & PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

COMPETITIONS.

Nature of Work.	By whom required.	Premium.	Designs to be delivered.	Page.
New Public Offices	Willesden Local Board	50*l.* and 25*l.*	Jan. 31st	i.

CONTRACTS.

Nature of Work, or Materials.	By whom required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Second-hand Broken Granite	Southend Local Board...	*Official*	Dec. 7th	xiii.
Stores and Materials	Great Northern Ry. Co.	do.	Dec. 9th	ii.
Erection of Eight Cottages, &c.	Admiralty	do.	Dec. 10th	ii.
Works and Materials	St. George's, Hanover-square, Vestry	G. Livingstone	Dec. 11th	ii.
Making-up Roads	Tottenham Local Board	— De Pape	Dec. 14th	ii.
Works at Infirmary	St. Leonard, Shoreditch	F. J. Smith	Dec. 15th	ii.
Paving Footways	Dartford Local Board ...	*Official*	Dec. 16th	xiii.
Portland Cement	Folkestone Corporation	A. W. Conquest	Dec. 18th	ii.
Refreshment Room, Monmouth Station	Great Western Ry. Co.	*Official*	Dec. 21st	ii.
Brick and Pipe Sewers, Paving, &c.	Met. Board of Works	do.	Dec. 22nd	ii.
Nine-Floor Granary	Bristol Corporation	J. W. Girdlestone	Dec. 28th	ii.
New Municipal Buildings	Sunderland Corporation	Brightwen Binyon	Dec. 29th	xiii.
Additions to Principal's House	Trustees, King William's College (Isle of Man)	*Official*	Jan. 15th	ii.
Completion of Block of Buildings	....	Ed. Clarke	Not stated...	xiii.
Erection of a Pair of Villas, New Barnet	....	J. White	do.	i.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page.
Building Inspector	Edmonton Local Board	120*l.*	Dec. 13th	xvii.
Draughtsman and Surveyor	Croydon Corporation ...	100*l.*	do.	xvii.

TENDERS.

BOURNEMOUTH.—For the erection of a lych-gate and boundary-wall to the churchyard of the Church of St. Michael. Mr. Reginald G. Pinder, architect:—

McWilliam, Bournemouth	£290 0 0
Minty, Bournemouth	253 10 0
Mannell, Bournemouth*	213 10 0

* Accepted, subject to slight alteration.

BOURNEMOUTH.—For the erection of a mission hall, per the Rev. F. E. Toyne, for St. Michael's Parish. Mr. Reginald G. Pinder, architect:—

S. Minty	£830 0 0
Davis & Lambert	748 0 0
F. Hoare & Son	675 0 0
McWilliam & Son	595 0 0
W. Jones & Son (accepted)	585 0 0

[All of Bournemouth.]

CARSHALTON.—For the erection of a villa residence at Meadow-road, Carshalton, Surrey, for Mr. H. Woodcock. Plans and specification prepared by Mr. James Keal, Sutton, Surrey:—

T. B. Potter, Sutton	£550 0 0
A. H. Harris, Sutton	465 0 0
Balchin & Shopland, Sutton	444 0 0
J. Brown, Sutton	429 0 0
Howe & White, Wallington	375 0 0
S. T. Evans, Carshalton (accepted) ...	370 0 0

CHICHESTER.—For rectory-house at New Fishbourne. Mr. Arthur Baker, architect, Warwick-gardens, Kensington. Quantities by Mr. J. S. Alder, Palmerston-buildings, Old Broad-street, E.C.:—

Pocock, Wood Green	£3,250 0 0
D. C. Jones & Co., Gloucester	2,986 0 0
J. R. Lockyer, Brighton	2,980 0 0
Dove Bros., Islington	2,975 0 0
W. Johnson, Chichester	2,854 0 0
J. Longley, Crawley	2,780 0 0
Peate & Son, Westbourne	2,630 0 0
Howel & Son, Bristol and London ...	2,597 0 0
Macey & Sons, London	2,559 0 0
Johnson & Son, Wandsworth	2,531 0 0
Peters, Horsham	2,458 0 0
Irish, Lavant	2,499 0 0

DARENTH (Kent).—For repairing, repainting, re-taping, and re-cording Venetian blinds of six patients' blocks, at the Asylum for Imbeciles, Darenth, Kent, for the Managers of the Metropolitan Asylums District. Messrs. A. & C. Harston, architects, Leadenhall-street. Quantities supplied:—

C. Willmott	£388 6 0
T. A. Bone	250 0 0
Fuller Bros.	217 2 6
F. G. Wenborn	195 11 0
Collyer & Son	194 15 0
C. J. Batstone	186 5 10
Suffling & Sons	186 0 0
W. J. Sandford	180 0 0
A. J. Shingleton	179 10 0
Gibbs, Flew, & Co.	170 0 0
F. S. Smith	163 5 0
Tidmarsh & Sons	155 0 0
C. J. Shaw	152 0 0
W. Hitchcock	149 10 0
J. Hitchcock	145 0 0
J. Williams	140 0 0
F. Clarke	139 13 9
F. D. Janes & Son	139 0 0
W. Meredith & Son	135 0 0
D. Westlake	130 0 0
R. Saxby & Son	119 0 0
W. Furniss	119 0 0
Saxby Bros. Northcote-road, Clapham Junction (accepted)	108 10 0

EASTBOURNE.—For the erection of private school, Eastbourne, Sussex, for Mr. A. M. Wilkinson. Mr. F. G. Cooke, architect, Eastbourne. Quantities by Mr. C. Stanger, Finsbury-pavement:—

J. Peerless	£4,945 0 0
Harding	4,638 0 0
Langley	4,560 0 0
Wood	4,445 0 0
Cornwell	4,371 0 0
M. Martin	4,350 0 0
J. Martin	4,290 0 0
H. Noakes	4,176 0 0
Backhurst	4,140 0 0
Dow & Son	3,945 0 0

[All of Eastbourne.]

EAST MOLESEY.—For the erection of new boating premises and restaurant, for Mr. Harry Tagg. Mr. Alfred Burnell Burnell, architect, Surrey-street, Strand. Quantities by Mr. J. F. Carew :—

Samuel Woods, Weybridge	£2,398 0 0
John Horrocks, East Croydon	2,260 0 0
A. E. Addis, Hounslow	2,200 0 0
Wm. Scrivener & Co., London	2,194 0 0
Wheatley & Sons, Molesey	2,165 0 0
Lansdowne & Co., Richmond	2,163 0 0
Moir, Wallis, & Co., London	2,156 2 3
E. C. Howell & Son, Lambeth Palace-road	2,110 0 0
James Smith & Sons, Norwood	2,096 0 0
Chas. Wall, Chelsea	1,990 0 0
Wm. Johnson, Wandsworth	1,930 0 0
Potterton, Gould, & Co., East Molesey (accepted)	1,783 9 0

EPSOM (Surrey).—For completing three houses, for Mr. Lords. Mr. R. W. Radbourne, surveyor :—

A. Francis	£950 0 0
George Ward	854 0 0
W. Castle, Nunhead (accepted)	810 0 0

GODALMING.—For additions, alterations, and repairs to Hurtmore Bottom, Godalming, for Mr. R. Burman. Mr. Mervyn E. Macartney, M.A., architect, Berkeley-square. Quantities by Messrs. Evans & Deacon, Adelaide-street, Charing-cross :—

R. Pink	£1,123 0 0
Foster & Dickson	1,123 0 0
Maides & Harper	1,088 0 0
F. Milton	1,048 0 0

LONDON.—For altering four dwellings into shops, in the Goldhawk-road, Shepherd's Bush. Mr. T. Durrants, architect :—

Reader	£1,195 0 0
Back	975 0 0
Clifton	975 0 0
Aitchinson	965 0 0
Higgs	895 0 0
Edgar	869 0 0
Webster	785 0 0

LONDON.—For rebuilding No. 20, Middlesex-street, E.C., for Messrs. Myers & Benjamin. Mr. M. E. Collins, architect. No quantities :—

Porter	£950 0 0
Steel Bros.	875 0 0
Poole & Son	875 0 0
Hewlett	863 0 0
Roberts	793 0 0
Garrud	772 0 0
J. O. Richardson	748 0 0

NORWICH.—For alterations and additions to No. 58, St. Stephen's-street, Norwich, for stores for Norwich Co-operative Society. Mr. A. F. Scott, architect and surveyor, Castle Meadow, Norwich. Quantities supplied :—

	Buildings.	Fittings.	Total.
Wilkin	£812 10 0	£176 0 0	£988 10 0
Youngs	699 0 0	179 0 0	878 0 0
Downing	700 0 0	175 15 0	875 15 0
Hall	640 0 0	153 16 0	794 0 0
Lacey	591 10 0	147 10 0	738 0 0

All of Norwich.

[Architect's estimate, 780l. 2s. 6d.]

POPLAR.—For the erection of an engine-house, boiler-house, chimney-shaft, workshop, and store sheds, and the execution of other works in connexion therewith, at the Isle of Dogs, Poplar, for the Metropolitan Board of Works. Sir Joseph Bazalgette, engineer :—

E. G. Badham & Co.	£23,982 0 0
C. Wall	21,000 0 0
Kirk & Randall	18,122 0 0
Downs	18,050 0 0
E. E. Nightingale	17,900 0 0
S. Cook & Co.	17,868 0 0
Brass & Son	17,400 0 0
W. Webster	17,345 0 0
Mowlem & Co.	16,666 0 0
Perry & Co. (accepted)	16,100 0 0
Church & Co.	14,328 0 0

ROXWELL (Essex).—For small farmhouse, Roxwell, Essex. Mr. Henry S. Legg, architect, Christ's Hospital :—

H. Runnacles	£1,160 0 0
Choat & Son	945 0 0
Wood	930 0 0
Moss	849 0 0

SHELFORD.—For alterations and additions to residence, for Mr. J. F. Eaden. Mr. F. C. Lees, architect, Bedford-row. Quantities by Messrs. Stoner & Sons, Blomfield-street :—

W. Saint, Cambridge (accepted)	£1,738 0 0

For rebuilding Stables.

W. Saint, Cambridge (accepted)	200 0 0

SOUTH SHIELDS.—For alterations to house, No. 53, Green-street, South Shields, for Mr. James Kirkley. Mr. Henry Grieves, architect, South Shields :—

E. Greaves	£196 11 0
J. & W. Gilfillan	190 0 0
D. Lawes	190 0 0
E. Anderson	185 16 8
W. Wilson	185 0 0
S. Sheriff (accepted)	160 0 0

All of South Shields.

WALTHAMSTOW.—For new roads and sewers, to be known as Arkley-road and Arkley-crescent, on the Camden House Estate, Walthamstow. Messrs. E. E. Croucher & Co., surveyors, Chancery-lane :—

Arkley-road.

Jesse Jackson, Leyton	£439 0 0
Thomas Adams, Kingsland	390 0 0
George Bell, Tottenham (accepted)	353 10 1

Arkley-crescent.

Jesse Jackson	262 10 0
Thomas Adams	227 0 0
George Bell (accepted)	183 0 0

WINDSOR.—For alterations and additions to Workhouse laundry, Old Windsor. Messrs. Edginton & Summerbell, architects :—

J. J. Perryman, Old Windsor	£997 0 0
T. Martin, Maidenhead	909 0 0
W. Watson, Ascot	835 0 0
Snell & Co., Maidenhead	808 0 0
H. Charman, Ascot	805 0 0
J. Deverill, Slough	800 0 0
G. Reavell, Staines	799 0 0
Turtle & Appleton, London	785 0 0
R. Bishop, Windsor (accepted)	760 0 0

SPECIAL NOTICE.—Lists of Tenders frequently reach us too late for insertion. They should be delivered at our office, 46, Catherine-street, W.C., *not later than Four p.m.* on THURSDAYS.

PUBLISHER'S NOTICES.

Registered Telegraphic Address, "THE BUILDER, LONDON."

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DOUGLAS FOURDRINIER, Publisher,
Addressed to No. 46, Catherine-street, W.C.

Advertisements for the current week's issue must reach the Office before THREE o'clock p.m. on THURSDAY.

The Publisher cannot be responsible for DRAWINGS, TESTIMONIALS, &c. left at the Office in reply to Advertisements, and strongly recommends that of the latter COPIES ONLY should be sent.

SPECIAL.—ALTERATIONS in STANDING ADVERTISEMENTS or ORDERS TO DISCONTINUE same, must reach the Office before TEN o'clock on WEDNESDAY mornings.

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